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# PROCESSOR

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## The Benefits Of SSDs

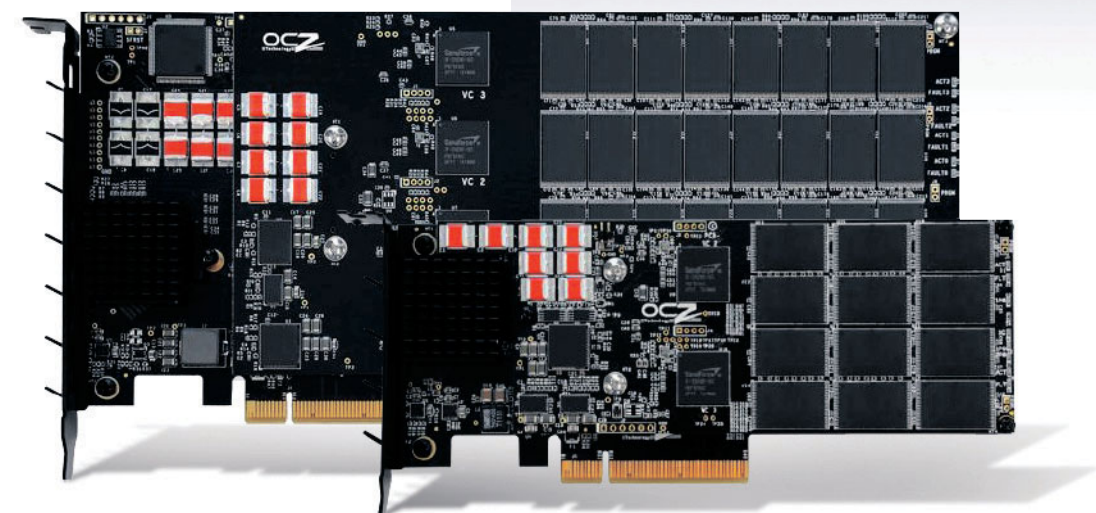
OCZ Uses Its Storage Experience To Develop Innovative SSD Technology

**IT'S COMMON KNOWLEDGE** that business, and even innovation, is based on supply and demand. But as a consumer, what can you do if you have a demand but there is no company out there supplying you with what you need? If you're Ryan Petersen and his colleagues, you go out and start your own business.

"We founded OCZ after coming to realize that no company at the time was producing the specific product we as a group of computer enthusiasts were looking for, and what was worse, no one would take our input," says Petersen, president and CEO of OCZ ([www.ocztechnology.com](http://www.ocztechnology.com)). "For that reason, we founded OCZ with a determination to develop best-of-breed products that really addressed customer needs and provided added value."

The employees at OCZ understand what users want because they themselves have experienced what it's like to not have the solutions you need readily available. The company always looks to the customer when deciding what technologies to invest in and how to make those technologies better.

In order to meet its goals, OCZ had to innovate and take a different approach than other companies. Instead of rebranding and selling drives, the company started designing and manufacturing its own products. In fact, Indilinx, which designs SSD controllers, is a part of the OCZ Technology Group and its



Z-Drive R4 SSDs feature power fail protection to prevent data loss during potential power outages and are also highly versatile. They combine hardware and software storage management with VCA (Virtualization Controller Architecture) 2.0, so you don't have to invest in multiple types of SSDs and hard drives to handle different storage needs. And OCZ has designed these drives to be customizable and easily configurable for almost any environment.

"The Z-Drive R4 is available in a half-height version, designed for space-constrained 1U servers and multi-node rackmount servers, and a full-height version," Petersen says. "Both configurations support single-level cell (SLC) or multi-level cell (MLC)

NAND flash memory with reduced write amplification to extend drive life more than three times the manufacturer's rating of the NAND."

### Long-Term Benefits Of SSDs

OCZ has been looking toward the future ever since it was founded, and today is no different. The company will continue to be innovative with its products and provide solutions for the ever-changing issues that IT-related businesses face. Petersen sees a future where PCI-E-based SSDs and SSDs in general will be a mainstay in server rooms everywhere, and so the company has put itself in a position to meet the present and future needs of companies.

"In addition to the Z-Drive R4, OCZ is the only company to offer SSDs with the complete spectrum of interfaces and NAND types, including interfaces like SATA, PCI-E, and SAS, as well as options in MLC, eMLC, and SLC NAND," Petersen says. "We don't believe that a single shoe will fit all clients, and as with all OCZ enterprise products, customer-specific configurations and functionality are available upon request." ■

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"The Z-Drive R4 is designed to be both easier to deploy and manage than historical high-bandwidth storage solutions, often with not just a lower total deployment cost, but with a lower cost per gigabyte compared to high-throughput SAN solutions."

- OCZ's Ryan Petersen

### The Move To SSDs

OCZ got its start manufacturing DRAM- and NAND-based storage from 2002 onward. But as technology evolved, the company understood it would need to adapt and begin building new drives with solid-state technology. "In 2007, we realized that as MLC NAND became more prevalent in the market, SSDs would become the storage medium of the future," Petersen says. The company decided to shift its focus primarily to SSDs and "push the envelope in terms of performance and reliability," Petersen says. But OCZ also wanted to make these SSD solutions more affordable and accessible to all types of customers.

components are used at every level of OCZ's line of SSD products.

OCZ also puts a focus on helping customers with implementation and day-to-day use of SSDs. "When it comes to support, we have put great emphasis on being a technical resource for our clients and have a dedicated team of OEM account managers and FAEs (Field Application Engineers)," Petersen says.

### SSD Innovation & The Z-Drive R4

Companies are producing more information than ever before, and the challenge is having enough room to store massive

amounts of data without incurring unsustainable costs. To help overcome this obstacle, OCZ is manufacturing Z-Drive R4 PCI-E SSDs that are less expensive and easier to use than other possible alternatives.

"No matter what the size of the organization, IT architects are now more than ever facing the challenges of managing ever-increasing amounts of data," Petersen says. "The Z-Drive R4 is designed to be both easier to deploy and manage than historical high-bandwidth storage solutions, often with not just a lower total deployment cost, but with a lower cost per gigabyte compared to high-throughput SAN solutions."





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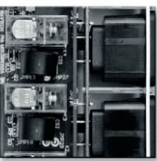
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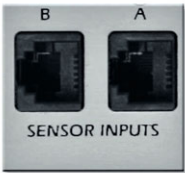
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# Companies Wary Of Information Theft . . .

Kroll's annual fraud report, which polled about 1,200 senior executives in various industries around the world, found that 50% of respondents think their companies are vulnerable to information theft, up from 38% last year. About 36% of respondents said the complexity of IT infrastructure was a main reason for their companies' exposure to fraud. Other reasons include a company's entry into new, riskier markets; high employee turnover; weak internal controls; and increased collaboration between companies. Almost 23% of respondents said their companies had suffered information theft, loss, or attack, down slightly from last year's 27%. The data thieves focused mainly on proprietary data and intellectual property, as well as customer information, Kroll found.

# . . . & Poor Email Management

A recent survey from software developer Oasys found that 96% of employees believe that their companies face legal risk from lackluster email management. The survey, which included more than 1,200 respondents in a variety of fields, also found that about 20% believe their companies face a high legal risk from cumbersome email systems. Disorganized email systems make it difficult to find relevant emails in the legal e-discovery process, which can lead to fines, Oasys says.

**34%**  
respondents who spend an  
average of up to two hours a  
day searching for emails

**8.4%**  
those who spend up to three hours

**87.9%**  
employees who admitted to deleting important  
emails because of inbox size limits

**\$12 billion to \$22 billion**  
IDC estimate of the cost to identify and handle  
information during e-discovery

## ■ HTC Smartphones Control More Of The Market

HTC is quickly gaining share in the smart-phone market, according to third-quarter sales statistics from research firm Canalys. HTC reported 13.2 million smartphones sold in the third quarter, making the company the fourth largest smartphone vendor. RIM suffered a drop in growth, reporting the biggest decline of all vendors. RIM holds just 9% of the U.S. smartphone market, down from a 24% share just one year ago. HTC is now competing with the top smartphones in the market, including Apple and Nokia. Apple sold 17.1 million smartphones, and Nokia sold 16.8 million. Canalys noted the reason for the growth is due to Android's popularity; HTC and Samsung are currently the top manufacturers of Android-based smartphones.

## ■ Judge Allows Lawsuits Against AT&T/T-Mobile Merger

After AT&T and T-Mobile moved for dismissal of the lawsuits against their \$39 billion merger, a judge ruled against that motion and has allowed the lawsuits to proceed. The two carriers filing lawsuits are Sprint and C Spire (formerly Cellular South). The lawsuits allege that the merger of the two carriers would violate antitrust laws and would lessen competition in the market. The U.S. Department of Justice is also moving forward with the same allegations against the merger. Sprint claims that after the merger, AT&T, along with Verizon, would be in a much better position to obtain exclusive deals from manufacturers. C Spire claims the merger would have negative implications for users of roaming services, an integral part of C Spire's service.

## ■ WinXP Continues To Drop In OS Market Share

According to Net Applications, Windows XP now holds less than half of the OS market, experiencing its largest decline in October. The company said the 10-year-old OS' share has dropped more than 20% in the past two years. Windows 7's increase in share matched this decline, taking the market share that WinXP lost. Win7 nabbed 34.6% of the market as of October. WinXP still holds 48% of the market, and an estimated 10% of enterprises still using WinXP have no plans to switch to a newer OS in the near future, according to Net Applications. However, the company estimates 55% of enterprises are already transitioning and 25% are in the starting phases of making the switch.

## ■ Report: More Providers Meeting Meaningful Use Requirements

A new HIMSS Analytics report says that more healthcare providers are likely to meet Stage 1 meaningful use requirements than previously assumed. The firm cited a 16% increase in organization readiness from February 2011 to September 2011, reaching 41%. HIMSS says 10% of all hospitals nationwide are currently ready to achieve Stage 1 requirements, 31% are most likely to meet the requirements, and 53% are still not likely to reach Stage 1 achievement; 5.5% making no progress whatsoever. There are three stages of meaningful use of electronic medical records mandated by the federal government; healthcare providers meeting such requirements are eligible for government reimbursement.

## ■ Smartphones Replacing Other Devices For Users

A new survey from Oracle reveals the future of mobile communications, specifically regarding the relationship between users and their smartphones. The survey found data use is continually rising, with nearly half of users saying they have increased their data use in the last year. More users are adopting smartphones, replacing cameras, GPS navigation

devices, and MP3 players—69% of all consumers use a smartphone worldwide, according to Oracle. App usage is also on the rise. The company says within the past three years, users have downloaded more than 300,000 apps 10.9 billion times. However, users are still skeptical about mobile information security.

## ■ EHRs In Use By Consumers, But Not Widespread

A Manhattan Research survey found that about 56 million people in the United States have accessed their electronic health record with the help of their physician, accounting for 24% of the adult population. The survey showed that an additional 14% would like to have access to their personal EHR, but 59% say they haven't used and wouldn't be interested in accessing their medical records through this service. Still, the research firm notes the adoption of EHRs among doctors is continually rising and the increased use by patients over the last year is notable, which could spark accelerated use on personal devices such as tablets.

## ■ EHR Market To Reach \$6.5 Billion

A new report from Frost & Sullivan says the electronic health record market will likely reach \$6.5 billion in 2012. Due to the increased implementation of EHR systems at healthcare organizations to meet meaningful use requirements, sales of EHR systems doubled from 2009 to 2010, according to Frost & Sullivan. Healthcare providers with a greater patient base have the largest implementation percentage, according to the report. Frost & Sullivan analysts say organizations are not just aiming to meet meaningful use criteria for the incentive programs and reimbursement, but also to avoid the penalties suffered by not implementing an EHR system by 2015.

## ■ Venture Capital Increasing For Health IT

Venture capital investments in health IT have increased 14% year over year, according to recent figures released by Dow Jones VentureSource. In the third quarter, such investments reached \$207 million compared to \$182 million in investments at the same time last year. Twenty-four venture capital deals were made during the third quarter, and 18 of those involve electronic health records and healthcare administration solutions. Investments made in the first three quarters combined totaled \$445 million, and analysts expect this trend to continue, estimating that venture capital this year for the healthcare IT market alone could surpass all VC investments made during the whole of 2010.



Citrix Buys App-DNA

Citrix plans to acquire App-DNA, a software company based in the UK. App-DNA specializes in application migration and management software, which will help Citrix to deploy enterprise virtualization. AppTitude, App-DNA’s set of tools that is used to catalog applications and deliver services over the enterprise LAN or WAN, will let Citrix customers plan and quickly implement a strategy to deliver needed services across the enterprise. The terms of the acquisition were not released, but Citrix expects the deal to finalize in the fourth quarter. In the past year, Citrix has acquired a number of cloud service and virtualization companies, including ShareFile, RingCube Technologies, and Cloud.com.

Sony Buys Ericsson’s Stake In Mobile Phone Business

Sony announced it will buy Ericsson’s 50% share of their mobile phone joint venture for \$1.5 billion. Sony will acquire several patents related to the devices and a cross-licensing agreement for intellectual property in the deal. Analysts predict that the sole control of the smartphone sector will likely be an advantage for Sony as it competes to regain market position. In a statement, Sony said it hopes to bridge its smartphone, tablet, and television technologies into an integrated user experience. Branding details are still in development. The split will go into effect in January 2012; the companies have been working as a joint venture since 2001.

SAP Reports Financial Results

SAP reported a strong 14% increase in sales for the third quarter ending Sept. 30. The Germany-based company reported revenue of \$4.75 billion, with a significant increase in software sales during the quarter. Software

revenue surged 28% to \$1.17 billion. Year over year, net profit rose 150% to \$1.74 billion compared to \$698 million in the third quarter of 2010. SAP is financially recovering from a fall in sales during the recession and an ongoing lawsuit with Oracle regarding copyright infringement, and is now buying back company stock. SAP has regained 3.6 million shares over a period of nine months.

Forrester Research Now Supports Macs In The Enterprise

According to a recent report from Forrester Research, enterprises should begin supporting Macs in the workplace. The research found that 22% of IT executives reported an increase in the number of personal Macs being used in the office. However, most enterprises have policies in place restricting Mac use; 41% say email, corporate applications, and sometimes even Internet access is restricted for those using their personal Macs at work. This is pushing employees to find ways around such restrictions, according to Forrester. Reasons for executive skepticism toward Macs in the enterprise include the belief that Mac implementation would be too costly or that needed programs wouldn’t be supported on the Apple operating system.

Google Reveals Rise In Government Requests For User Data

According to Google, the number of U.S. government requests for user data rose nearly 30% in six months. The search giant released a report stating the number of criminal investigation inquiries in the first six months of 2011 totaled 5,950, averaging 31 requests per day. Google complied wholly or partially with 93% of the requests. The report also showed U.S. agencies asked Google to remove a total of 757 items, such as videos, user content, and images; 63% of these requests were at least partially

fulfilled. The company’s Transparency Report Web site offers more transparency regarding government requests than any other organization. Google representatives say their level of transparency to the public aims to modernize aging laws dealing with electronic privacy.

289 PDU Products Released By Server Technology

After announcing the addition of 69 new customer-inspired PDUs, Server Technology has released a total of 289 new data center products so far in 2011. According to the company, custom-fit data center products are still much needed and desired in an environment that is always evolving. As the company continues to develop products geared toward enterprises’ unique power and efficiency goals, more situation-specific devices are being released with the help of Server Technology’s Quality Power Architecture. Some new products also utilize the PIPS (Per Inlet Power Sensing) technology, which provides data centers with a high-voltage, high-amperage solution for dense rack environments.

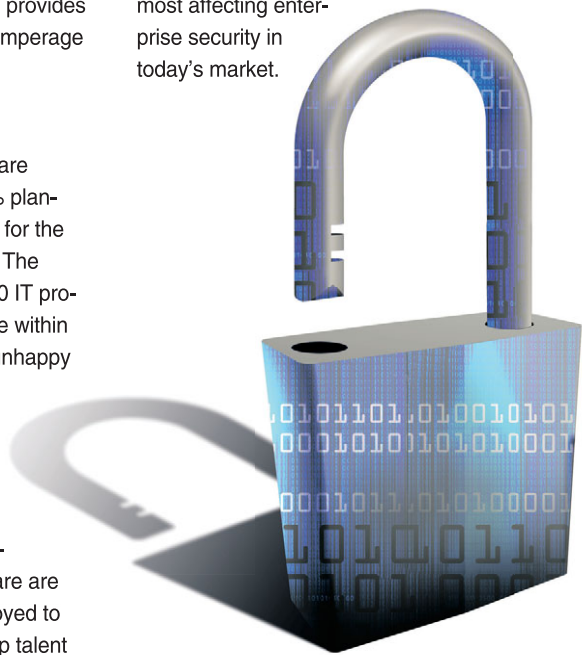
Modis Study: IT Pros Content

Eighty-nine percent of IT professionals are content with their current jobs, with 64% planning to stay with their present employer for the foreseeable future, according to Modis. The Modis study also showed that of the 500 IT professionals surveyed, 44% expect a raise within the next year. Only 11% said they are unhappy with their current position. Although the statistics seem positive, Modis notes part of the reason for contentment is the fear of the unstable economy and company efforts to keep employees satisfied. A flexible schedule, the opportunity to telecommute, and onsite daycare are a few strategies companies have employed to strengthen employee retention and keep talent

in areas where many have a talent shortage, such as cloud computing, mobility, and security.

Survey Shows New Enterprise Security Woes

A recent survey from Ernst & Young revealed that many organizations have rushed to adopt cloud solutions before thoroughly reviewing and analyzing all security risks involved. The survey found that 61% of IT executives surveyed said they will be using cloud solutions or will be evaluating cloud services within the next 12 months. More than half of respondents indicated they have not implemented the proper security controls to mitigate cloud-based risks. Ernst & Young outlined the risks surrounding the cloud, which include privacy concerns, information security, data integrity, governance, risk management, and regulatory impacts. The company noted that mobile computing and social media, in addition to cloud computing, are most affecting enterprise security in today’s market.



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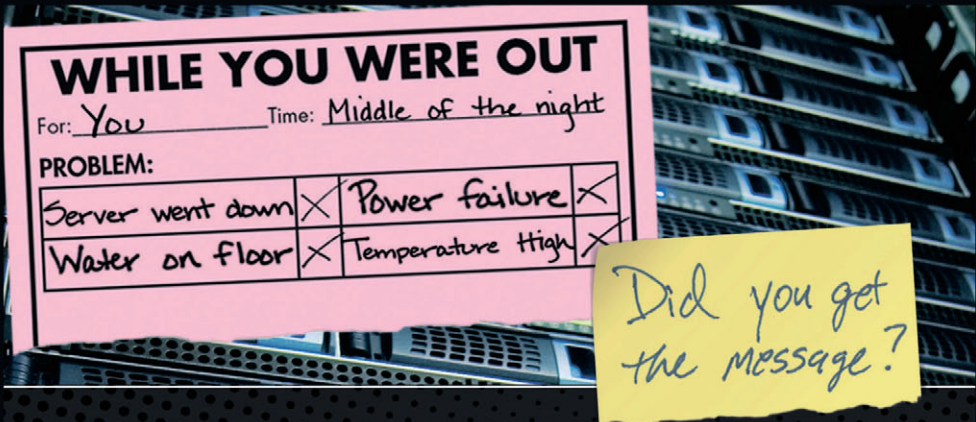
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The *Processor* Photo Listings section includes brief overviews of data center products. All products listed have been released recently, so use this section to get up to date with what's new on the market and to find products you need.

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# What To Do With Unused Hardware

## Expert Advice For Handling Excess Equipment

**IT STAFF DEAL WITH** a lot of inventory, from servers to workstations to smartphones. It’s likely that some of that hardware is surplus or no longer is use. Things such as old laptops, desktops, and monitors may be wasting away their useful life and taking up space in storage. The best way to get rid of unused IT equipment is to work with a secure and code-compliant disposition service that can turn idle assets into a monetary return. Of course, there are a number of things you’ll need to consider when turning over your used hardware, including environmental concerns, government laws and regulations, and local corporate oversight.

### ✓ *Locate Unused Equipment*

According to Brett Femrite, director of business development for Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)), “You should identify and know what equipment you have on hand, what’s operational, and what’s been abandoned or is under- or unused. You can’t do much to get rid of unused equipment until you have completed a thorough audit and identified what can be removed.” The inventory auditing process can be both tedious and time-consuming, as you’ll want to check out all types of equipment in your data center, including such things as switches, fans, shelves, cables, and wires.

“It is likely that there are hardware asset management processes in the distributed environment,” says Jenny Schuchert, content and development director for IAITAM (International Association of Information Technology Asset Managers). “Before starting over again, investigate what is already in place, including the vendor(s), the services in use, additional services available, and removal options.” Once you’ve audited all the equipment and services, you can decide how you will sell the equipment.

### ✓ *Key Concerns*

According to Morris Scott, president of DMD Systems Recovery ([www.dmdsystems.com](http://www.dmdsystems.com)), “You’ll need to decide up front what you’re looking to do as far as a primary objective. Are you concerned

final destination of the equipment, whether it be a certificate of destruction or information about recycling activity, such as if it was dismantled into parts for other products. Some hardware disposal companies are even audited by independent auditors to ensure compliance. If you want to continually recycle or resell surplus hardware, you may want to look for a service that will set up an ongoing contract with you.

### ✓ *Type Of Disposal*

One of the most common methods for getting rid of the used equipment is a fire sale, but many data centers will need to be conscious of who they are selling to. “A less time-consuming method is to sell to one of the many companies that exist by buying used servers and equipment and refurbishing them,” Femrite says. “Bear in mind, often you will receive pennies on the dollar for this equipment, but normally the buyer will pay to pick it up and ship it to their facility and get it off your hands.”

Another option is an asset recovery program, which is a service that performs both the IT asset buyback as well as the physical recycling of hardware. Some vendors will even create a fund for your organization so that the money you gain from selling used hardware can be used to purchase recertified equipment when you need new hardware. “Confirm current market value on the equipment,” Schuchert advises. “Some information is available on the internet; other sources are available at a cost.”

### ✓ *Legal Issues*

“Electronic equipment has many toxic wastes, and regardless of country, laws are most likely in place that make your organization responsible for any problems that occur from dumping a device in a landfill,” Schuchert says. Depending on your data center’s line of business, the disposal service may need to meet specific certifications for you to be legally covered.

“Make sure that the company you do business with has the right certifications and credentials, such as ISO 9001 [and] ISO 14001 registration; [that the company

“You can’t do much to get rid of unused equipment until you have completed a thorough audit and identified what can be removed.”

- Rackmount Solutions’ Brett Femrite

about protecting the company from information loss [or] from environmental liability, and are you looking for a one-time disposal or an ongoing process?”

For example, a company where data security is mission-critical will want to go with a service that keeps detailed records of wiping, reset, degaussing, and destruction of your equipment. Many hardware resellers and disposal services will provide you with a complete report down to the

is] MOE and EPA regulated; and that they have a history of compliance with all applicable environmental laws and regulations,” Femrite adds. “You should also be sure they have safeguards in place to protect company and personal information through the entire process.” Other key legal steps should include the physical security of the device—such as how it’s delivered to the processing factory—throughout the entire used equipment process. **P**

### Most Practical Tip:

#### ✓ *Put Your Old Equipment Back In The Market*

“Look to work with companies with a reputable asset recovery or refurbishing program,” advises Brett Femrite, director of business development for Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)). “They can often provide help in determining the value and final disposition of your unused IT assets, and offer a variety of options to suit your needs.” For example, a disposal service company may be able to tell you if it’d make more economic sense to repair or reconfigure a given product, rather than destroy it or tear it apart for recycling. By maximizing the value of your equipment, an asset recovery service can also help to improve the green status of the company, because you are helping to make hardware sustainable for a longer period of time.

### Most Cost-Effective Tip:

#### ✓ *Make The Most Of Dealer Options*

“Examine what the services are offering,” Femrite advises. “Some of the larger companies charge for asset disposal, while others will pay you for the equipment. Smaller regional companies can often provide more cost-effective solutions because of local transportation, labor, and processing.” Companies that offer to pay you may provide such things as revenue sharing and the ability to purchase other refurbished hardware. “Ask for referrals, performance reports, or projections up front. Looking at past disposal lists will make it easy to forecast what you can expect,” Femrite says.

### BONUS TIPS:

#### ✓ *Look for volume savings.*

“When moving equipment out of your environment, volume is good,” says Jenny Schuchert, content and development director for IAITAM (International Association of Information Technology Asset Managers). “While a high FMV (fair market value) is one factor to help lower costs when resale is an option, volume of equipment is a good idea when destruction or resale is possible. The price of gold and some other extracted components are allowing vendors to offer reasonably priced destruction and recycling, but the situation is changing as recycling itself increases in cost.”

#### ✓ *Look into lease information.*

You should make sure that the equipment you’re removing from the data center was purchased off-lease. Data centers managers may not have all the contract documentation on hand, and you may be making an expensive mistake if you’re selling or destroying assets that are currently leased to another vendor.



# Non-Water Alternatives For Fire Protection

Clean Agent & Water Mist Suppression Systems Won't Leave You All Wet

**OIL AND WATER DON'T MIX**, and neither do servers and water. So when data center managers think about a fire in the data center, they tend to blanch, because they know that the cure can be worse than the disease. What's a little smoke damage compared to a thousand gallons of water in a room full of sensitive computer hardware?

Fortunately, there are alternatives to water in the fire suppression market. Here are some bare-bones basics for you to consider if you're looking for something other than water to protect your data center from fire.

### How Do Non-Water Systems Work?

Some non-water fire suppression systems stop fires, not by smothering them, the way water does, but by making it impossible for them to breathe. Fire needs oxygen to live and spread, and many of the gas-based fire suppression systems flood the room with gases that remove the oxygen from the area. Some use carbon dioxide, while others use inert gases. One of the best-known of these systems is Halon, and some buildings still have Halon systems installed. But Halon installations aren't available anymore, because the agent was destroying the ozone and it was banned by the Montreal Protocol of 1987. "There are other CO<sub>2</sub> systems out there, but you typically don't see those in data centers because you do not

want to put in them in occupied places," says Allyn Vaughn, president of JBA Consulting Engineers. That's because the concentrations of carbon dioxide required to stop the fire are often lethal to humans.

Other systems stop a fire by cooling it rather than by taking away its oxygen. For example, systems that use HFC (hydrofluorocarbon) compounds remove heat from the fire. The chemical agent for these systems is usually stored as a compressed liquid rather than as a gas. There are systems that use a liquid which becomes a gas when it's released to stop a fire, and this option is becoming more popular for a couple of reasons. "That system is not as dependent on the room being airtight or close to it, the way some systems are," says James Perise, a senior associate and assistant department head of the plumbing and fire protection division of WSP Flack & Kurtz. "It takes five days to break down after release, and the amount of storage you need is less because it's stored as a liquid instead of a gas."

### What About Water?

Although it's an IT nightmare, part of the reason water works so well against fires is that it both cools and smothers them. The good news is that you don't have to turn completely against water in the search for a fireproof strategy. Perise explains that there are water-mist sys-

tems that use a special nozzle that breaks the water into extremely small droplets.

Those droplets have a much larger effective surface area and therefore cool the fire more quickly with much less water. Plus, the water turns to steam, leaving far less water standing around after the fire is out. "If you have a standard sprinkler system that runs for 10 minutes before shutdown, it's likely to discharge 2,000 gallons of water, which means major damage to the room and surrounding area," he says. "But a 10-minute run with a mist system would use 20 gallons."

Depending on costs, the criticality of what you're protecting, and considerations about the space you're protecting, a mist-based system might be your best choice. But Perise warns that mist systems can be persnickety. "The biggest drawback is that these nozzles have ultra-fine openings, so the water and piping have to be high-quality," he says. "Some buildings draw their [fire prevention] water from a non-potable source, even a lake, but you can't do that with a water-mist system."

### Important Considerations

If you're thinking about a non-water system, whether for new construction or an existing room or data center, there are a few things to keep in mind as you consider your options. The first is what your municipality or jurisdiction requires in terms of water-based sprinkler systems. You may love the idea of protecting your equipment with a gas or a chemical that evaporates, but you may be stuck with sprinklers, as well. "There are still areas, and New York City is one of them, that require a water-based system as a backup even if you have a clean agent or gaseous system," says John Bredehorst, executive vice president and managing director of the New York office of WSP Flack + Kurtz.

Still, that doesn't mean you're stuck with water pipes crossing above every server you have. There are systems available that work with both water and clean agents. A valve holds the water

### Key Points

- Most non-water-based fire suppression systems use chemicals to either cool the fire or make it so it can't breathe.
- Think about the size of the room and how much room you have for storage of the cylinders of gas or chemical suppression agent.
- There are water alternatives that are less damaging to equipment than basic sprinkler systems.

back from the pipes until an event from the detection system tells it that there's a fire to deal with. Before the water is released, the clean agent gets its shot at containing the fire. "It's called a double interlock and it requires a series of actions and events before you introduce water to the pipe," Vaughn says. "It prevents accidental discharge."

You also need to consider the nature of your space, particularly how big it is and whether it can be made airtight or close to it. "You have to consider the ability of the suppression system to fill the room," says Tom Fетters, vice president and general manager of data protection services for Recall ([www.recall.com](http://www.recall.com)). "If you have a lot of open areas where gas can leak, that's going to reduce its capability."

Additionally, the bigger the space is, the more chemical or gas agent you'll need to have on hand to manage the fire if one breaks out. But Vaughn says that the cost question also works in the opposite direction. "The smaller the room, the bigger the cost per square foot, because you still have to have the basics of the system: the cylinders, the piping, and the detection system," he says.

Storage is also a factor with smaller spaces. The smaller your room is, the more concerned you'll have to be with storage. Some spaces may lend themselves to a liquid agent or a compressed gas because the gas cylinders take up too much storage space. P

## Remember Employee Training

When considering a non-water fire suppression system, it can be easy to forget one thing: the human element. Whether it's responding to the system's alerts or deciding whether to try to contain a fire with a chemical extinguisher, include training for employees who are in your data center in your plan. "When the system deploys, the only training people need is to get out right away," says Tom Fетters, vice president and general manager of data protection services for Recall ([www.recall.com](http://www.recall.com)). "But your employees need to know how to manage a fire extinguisher and how evaluate a fire for whether they should to try to manage it themselves. There's also ongoing maintenance of the system, and they need to know what to check on a monthly basis or every three or six months. Finally, they need to know what to look for and who to call if the system gives a warning that there's a problem."

### ■ Samsung Passes Apple In Smartphone Shipments

Research firm Strategy Analytics reported that Samsung shipped more smartphones than Apple during the third quarter, giving it first place in the market. Samsung's market share reached 23.8% during the quarter, compared to Apple's 14.6%. Nokia was in third place with a



14.4% share. In the third quarter last year, Samsung had only a 9.3% market share compared to Apple's 17.4% and Nokia's 32.7%. Samsung's smartphone shipments totaled 27.8

million during the third quarter, up from 7.5 million during the third quarter last year. Apple shipped 17.1 million smartphones during the third quarter. Strategy Analytics said that global

smartphone shipments reached 117 million units, an increase of 44%.

### ■ Yahoo! Buys Interclick For \$270 Million

Yahoo! announced that it will acquire Interclick, which provides targeted advertising services, for \$270 million in cash. Yahoo! will use Interclick's technology to help its struggling online advertising business. Interclick's analytics platform, which uses large amounts of data from multiple providers and marketplaces, helps advertisers identify online target audiences.

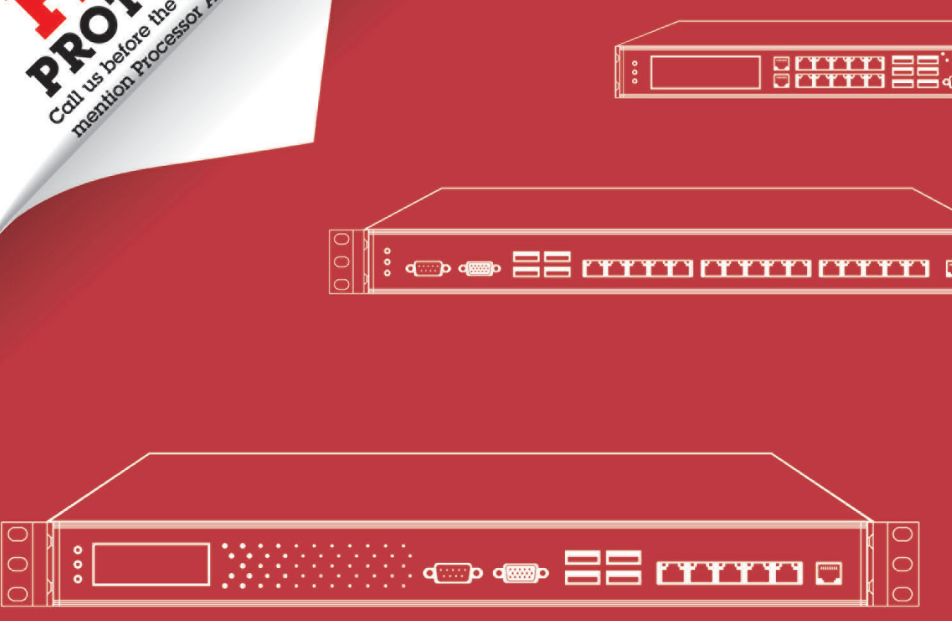
Yahoo! will pay \$9 per share for Interclick, a 22% premium over the company's stock price at the time of the deal. Interclick, which is based in New York, has an annual revenue of about \$102 million. Interclick's board has approved the deal, which is expected to close by early next year.

### ■ Lenovo Nearly Doubles Q3 Profit

Chinese computer maker Lenovo posted an 88% increase in third-quarter profits and outsold Dell to take second place in the global PC


market. Lenovo reported \$144 million in profit for the third quarter, up from \$77 million a year ago. Revenue increased 35% to \$7.78 billion. Lenovo had a 13.5% global market share in the third quarter. The company has seen double-digit growth during the past few quarters and is the fastest-growing PC maker among its top five competitors, despite the struggling PC market. Lenovo attributes its success to strong sales in China, where it holds 31.5% of the market, and in emerging markets such as Russia and India.

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# Best Practices In Virtualization

Following These Guidelines Helps SMEs Get The Most Out Of Their Virtualization Implementations

**VIRTUALIZATION** seems like such a slam dunk for IT: Collapse countless, often disparate hardware platforms into common, consistent machines, then manage the virtual resources within the resulting simplified, more efficient infrastructure.

For IT shops looking to reduce overhead, boost availability, and maximize performance, the promise of virtualization is almost too good to be true. Unfortunately, nothing in IT is ever quite that simple, and diving head-first into the virtualization pool without first considering some core best practices is a recipe for, if not disaster, then at least an expensive lesson or two. Fortunately, the following tips can smooth out IT’s path toward a virtualized future.

### Build A Business Case

Virtualization is no different than any other technology initiative: IT needs executive support—and funding—before the first piece of hardware is touched. This

### Treat Virtualization Seriously

Moving toward virtualized infrastructure represents a fundamental change in direction not only for IT, but for the businesses it serves. Don’t make the mistake of assuming it will manage itself. Treat it like the major project that it is by assigning a project manager with enough authority to marshal resources and control all relevant budgets.

“Work with the project manager to build a project plan and determine which vendors you will go through to acquire necessary hardware, software, and services,” says Nathan Coutinho, solutions manager for virtualization at CDW ([www.cdw.com](http://www.cdw.com)). “Be sure to create a conversion time line, and stick to it—it’s one of the most effective ways to control cost.”

is especially critical given the intangible nature of virtualization initiatives.

“A business case will help gain support for the initiative,” says Michelle Warren, president of Toronto-based MW Research & Consulting. “It will force the IT department to consider all of its elements to justify its time and expense. They should be able to outline the key benefits, its key efficiency improvements, and its hard costs.”

### Focus On Tertiary Savings

While simplified infrastructure can save major help and support costs and even reduce implementation timelines from months and weeks to hours and minutes, the less obvious opportunities can often be the strongest selling points for non-technical C-level sponsors.

“Find out what you’re spending on energy, not only for server power but server cooling,” says Damian Giannunzio, product manager at Diskeeper ([www.diskeeper.com](http://www.diskeeper.com)). “Virtualization in this area is a tremendous savings.”

Giannunzio says virtualizing storage infrastructure can also drive potentially huge future savings by replacing conventional “islands of storage” with SANs or other shared architecture.

“Calculate your current spending on hardware attrition and employ a prominent ROI calculator,” Giannunzio advises. “Things get simple when you can show the savings.”

### Study Your Software Vendors

When you shift from physical to virtual infrastructure, the licensing rules shift, as well. Costs can fluctuate uncontrollably if IT doesn’t invest enough time in due diligence.

“Before making any decisions about which servers to virtualize, it’s important to understand each software vendor’s support policies,” says Nathan Coutinho, solutions manager for virtualization at CDW ([www.cdw.com](http://www.cdw.com)). “Is the software supported to run in a virtual machine? Is it supported to run on specific platforms?”

Coutinho says it’s also critical to determine each software vendor’s licensing policies. Only after these questions have been answered can IT begin to narrow down specific choices for virtualization tools and implementation strategies.

MW Research & Consulting’s Warren echoes the sentiment, adding that IT can’t afford to ignore virtualization’s impact on hardware, software licensing, and maintenance and support costs. She advises IT leaders to ask a lot of questions, including what’s required, how many, and how much it’ll cost.

IT needs to “outline the real costs to the organization,” Warren adds. “Are the upgrades needed? Which products and services will lower costs and improve productivity? How much is needed to run them? Can those costs be cut further? What benefits will be realized?”

Warren says the top benefits could include greater employee productivity, improved access to information, and more robust data security.

### Identify Potential Bottlenecks

Virtualization’s promise of increased performance doesn’t come without certain costs. Diskeeper’s Giannunzio says additional abstraction layers can complicate storage performance.

“Ensuring that your virtual platform is operating at peak performance requires new measures that IT needs to get educated about,” he says. “Resource bottlenecks are emergent in virtualized environments where proper measures aren’t taken.”

Beyond initial implementation, longer-term planning should focus on optimizing what’s already in place.

**Go Beyond The Hardware**

Virtualization involves far more than simply server and storage infrastructure. Giannunzio says the hardware is only the beginning.

“Establishing a shared storage infrastructure and virtualizing introduces the opportunity to achieve previously

### Key Points

- With fundamental changes to infrastructure potentially impacting every aspect of the business, senior leadership needs to buy into the benefits to ensure consistent sponsorship and support.
- Virtualized technologies aren’t built the same way as conventional ones, and they’re not supported similarly, either. Make sure vendor help and support processes accommodate newly virtualized infrastructure.
- Organizations often forget to include backup, disaster, and recovery planning when planning a virtualization initiative. Ensure all elements are updated in lockstep to avoid a nasty surprise when major systems unexpectedly go down and stay down.

unheard-of service levels,” he says. “A massive boon of virtualizing is the ability to evolve away from hardware spending and instead invest in your existing architecture. Remember, virtualization is only limited by dreamt-up use cases: Once your servers and workstations are virtualized, consider application virtualization.”

### Back Up Your Backup Environment

It’s all too easy to leave backup and disaster recovery plans behind when planning a virtualization initiative. CDW’s Coutinho says revisiting backup/restore architecture while virtualizing can be a cost-effective—and risk-reducing—step.

“Many vendors offer enhanced backup products for virtual infrastructure, and some price by socket or host, reducing costs considerably,” Coutinho says. “If your business has a long-term maintenance contract, consider reviewing it before changing your backup architecture.”

### HP Revises Future In Software; Turns Back To Hardware Development

After its surprising August announcement that the company would sell or spin off its PC business, HP announced the reversal of the plan and pledged commitment to the manufacturing of personal computers. The company also announced it will continue to develop Windows-based tablets, including future Windows 8 devices. HP’s WebOS was originally on the chopping block, and the future of this software is still uncertain. Meg Whitman, the newly appointed CEO

of HP, made the announcements in late October. Former HP CEO Leo Apotheker set up the move to software and cloud services, which was an unexpected turn for the company, as HP is the world’s largest PC manufacturer.

### Android App Downloads Exceed iPhone App Downloads

Android application downloads surpassed iOS app downloads,

according to a recent report from ABI Research. Android downloads hold 44% of the app market compared to Apple’s 31%. Although both phone manufacturers are experiencing shipment growth, Android phone shipments far exceed iPhone shipments at 36% and 9% growth, respectively, likely influencing the number of downloads. ABI Research notes that there are



positives to each app market, noting Android’s open-source strategy has led to an unlimited number of third-party app developers on the Android Marketplace. Apple’s app policies are stricter, creating a more reliable assortment of applications and better customer experience, according to ABI. The research firm also noted that Apple downloads per user still exceed Android’s two-to-one.

**Processor Shipments Increase 5% In Third Quarter**

A study from Mercury Research found that worldwide processor shipments

increased 5% during the third quarter, despite sluggish growth in the PC market. Intel’s market share fell slightly to 80.3% from 80.6% in the same quarter last year, and AMD’s share increased to 18.8% from 18.3% during the same quarter last year. The study found that manufacturing problems with AMD’s 32-nanometer chips hurt supplies for mainstream PCs during the quarter, but AMD’s Fusion mobile chips, which are used in notebooks and laptops, saw strong sales. The average processor price in the third quarter was \$107, the highest in almost five years, the study found.

BUYING GUIDE



BUYING TIPS:  
Network Monitoring

**THE HEALTH** of a company’s network is crucial to its productivity. As such, choosing the right monitoring system increases the commercial worth of your business, says Steve Francis, founder and chief product officer for LogicMonitor ([www.logicmonitor.com](http://www.logicmonitor.com)). “Monitoring is needed to reduce outages and improve performance and availability,” Francis says. “While it needs to be done effectively, the amount of time spent configuring and managing the monitoring will reduce the ROI of the [system], as it takes the IT staff away from adding more value to the enterprise.”

As you evaluate how you’re going to manage your unique network and improve metrics overall, take into account the following key elements of network monitoring.

**Weigh support options and customer testimonials.** Because you’re making a decision to partner with a service provider or roll out network monitoring software, you’ll want to assess the quality of every potential vendor’s ongoing support. Francis says that support can be a big differentiator, because there’s always some level of learning. He recommends determining how available and engaged the support or on-boarding process is.

Customer recommendations as well as testimonials from the media and product reviewers should ease the burden of this process. According to Ken Sanofsky, general manager for North America at Paessler ([www.paessler.com](http://www.paessler.com)), “Every vendor is going to tell you they have the best product, but if you look at their customer testimonials, user stories, case studies, customer surveys, feedback from the press, and third-party product reviews, you’ll get an honest picture of whether a solution is what the vendor says it is.”

**Look for business impact, not just features.** Francis advises against comparing feature lists and instead recommends comparing the business impact of the monitoring systems you’re researching. He explains that one system may have a bevy of features, but the way they’re implemented means significant user time is required in order to utilize them. “Another system may only implement 80% of the desired features, but the missing 20% may only rarely be used and have minimal business impact,” Francis says. “Any system that allows the same IT staff to effectively monitor more systems is a better choice.”

**Don’t overlook ease of use.** Both Francis and Sanofsky agree that a network monitoring solution that’s not easy to use isn’t

Buyers’ Checklist

- ✓ Do you prefer a service provider or a SaaS-based monitoring system?
- ✓ Does the vendor offer a starter edition or a free trial service?
- ✓ Are you considering outsourced or in-house monitoring?
- ✓ Does the service include an all-in licensing model?
- ✓ Is the product designed for the needs of a small to medium-sized business?
- ✓ What is the default depth of monitoring?
- ✓ Have you decided what changes you’re willing to apply to your budget to cover cost of new staffing and monitoring solutions?

Key Terms

**Availability and bandwidth.** “Slow performance and outages can impact the bottom line of your business,” says Ken Sanofsky, general manager for North America at Paessler ([www.paessler.com](http://www.paessler.com)). “Continuous monitoring enables you to find problems and resolve them before they escalate.”

**Distributed monitoring.** Sanofsky says monitoring solutions should be capable of monitoring multiple networks in different locations, such as subsidiaries (from headquarters), separated networks, and customer networks.

**IPv6.** “Network vendors are preparing for the shift to IPv6, and it’s important that network monitoring solution providers are on board,” Sanofsky says. “Vendors should offer solutions that support the next-generation Internet Protocol, as this is the wave of the future.”

**Network usage.** Create individual usage reports and ensure that your network supports common data acquisition methods, including SNMP, WMI, packet sniffing, NetFlow, jFlow, and sFlow, Sanofsky says.

much good. “Network monitoring software needs to be flexible and fully customizable,” Sanofsky says. “Every business has its own specific needs, so a network monitoring solution that is not customizable or able to monitor different aspects and devices simply won’t work.”

Francis highlights the importance of easily tuning and customizing alerts and thresholds. For instance, he says, you may want different CPU levels to trigger alerts for the different classes of hosts and you don’t want to have to change thresholds on each device in monitoring. <sup>P</sup>

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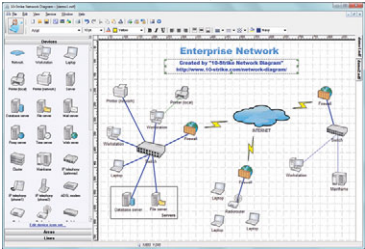
## PRODUCTS CO.

PRODUCT SPOTLIGHT

# Network Monitoring

Product

10-Strike Software  
Network Diagram



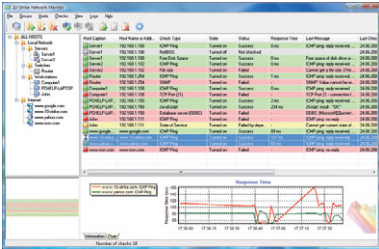
Description

10-Strike Software's Network Diagram for Windows creates maps of local-area networks and exports them to Microsoft Visio or to vector or raster images. By constructing a graphical plot of computers and devices, IT administrators can assess the topology of the entire network. Admins can also edit the diagrams in order to document their LANs or follow new discoveries.

- Scan client sites and networks to analyze the infrastructure and determine how to deploy new devices
- Network Diagram can locate devices with active SNMP agents, make logical connections, and apply icons to form the graphical map
- Print the diagram by choosing the print quality, page position, and map orientation

**Best For:** Any enterprise that would benefit from a comprehensive network layout map.

10-Strike Software  
Network Monitor

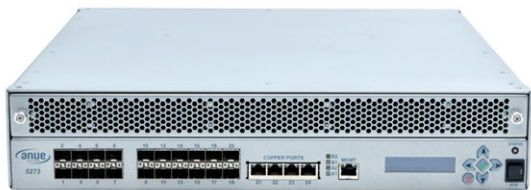


Designed for the Windows operating system, the 10-Strike Network Monitor tracks the behavior of computers, servers, switches, and other devices connected to the enterprise network. In addition, it will monitor databases, files, folders, free disk space, VPN connections, and more. With periodic automatic device polling, the Network Monitor sends ICMP packets to a device, connects to appropriate TCP ports, accesses databases, and checks managed switches through the SNMP protocol.

- Network Monitor keeps you aware of any programs' response to an event, failure, or recovery
- Gives you the network tools to detect failures and respond in an unpredictable event
- Features numerous notification methods, such as on-screen messages, email, SMS, sound alarms, VB scripts, JS scripts, log files, and event log

**Best For:** Receiving timely alerts about failures and events across the entire network.

Anue 5273 Net Tool Optimizer



The Anue 5273 Net NTO (Net Tool Optimizer) is a carrier-grade, NEBS Level 3-certified solution that helps service providers achieve optimal network performance while meeting the increased bandwidth needs required by growing mobile and video content. The Anue 5273 NTO aggregates data from multiple network access points in a network and ensures the delivery of critical network traffic to the essential monitoring tools for complete network visibility. By enhancing the power of the existing network monitoring tools, network performance improves, team productivity increases, and potential risk of network outages decreases.


- A NEBS Level 3-certified device that meets high-bandwidth demands of mobile and video content
- Add an optional Advanced Packet Processing solution for deduplication, extended burst protection, MPLS stripping, and packet trimming
- Other add-on solutions include an expansion module for CX4, XFP, and SFP+ interfaces and a remote power supply for redundancy

**Best For:** A good fit for any data center requiring telecommunications and cable service-provided network monitoring switches.

**Price:** Starts at \$30,000

Product

LogicMonitor Hosted Monitoring



Description

For companies that don't have the staff resources to devote an engineer to install, configure, and maintain an on-premises monitoring system, LogicMonitor's hosted monitoring takes the hassle out of monitoring. With no monitoring infrastructure to maintain, and requiring just minutes to deploy, LogicMonitor provides dashboard views of the health of all your networking gear, servers, applications, databases, storage, and virtual and cloud-based infrastructure, all from a single Web-based console, making it easier to pinpoint the cause of performance issues within complex technology stacks. A powerful alerting system proactively notifies your staff via email and SMS message to issues before they negatively impact your business.

- Unlimited 24/7 email and SMS alerts
- Alert routing and escalation
- Historical trending data stored for one year
- Preconfigured monitoring templates for most data center devices
- Hosted, maintenance-free architecture

**Best For:** SMBs, enterprises, and service providers that don't want to build and maintain their own monitoring infrastructures.

nMetrics Metascope




nMetrics Metascope is an high-performance, low-cost application monitor designed for small networks or remote sites with up to four subnets. Features include hardware-based monitoring; a high-speed, compression-based database; and standard and customized reports that are produced quickly and easily. The Metascope is designed to deliver flow-based analytics to help customers with capacity planning, troubleshooting, and usage billing in an affordable, easy-to-use, and easy-to-deploy package. By offering views of flow, session, application, service, and end-user levels, the Metascope is designed to deliver complete enterprise-wide network visibility.

- Monitor four subnets with individual link speeds up to 1,000Kbps
- Three levels of entry for different businesses: Metascope Packet Analyser, Metascope Flow Analyser, and Metascope Session Analyser
- Features six 10/100/1000 Ethernet ports for in-line monitoring from router to switch or offline switch mirror port
- Deployment is underway in hours, so you won't have to wait weeks to track network problems

**Best For:** Networking managers who want to pinpoint the cause of performance issues.

Paessler PRTG Network Monitor



PRTG Network Monitor from Paessler has been recognized worldwide for its rich feature set; ease of use; and simple, cost-effective, all-in licensing model. The latest version, PRTG 9, adds a number of usability and efficiency improvements to streamline network monitoring tasks and save time and money for IT departments and network administrators.

- PRTG Network Monitor covers uptime/downtime monitoring, traffic and usage monitoring, SNMP, NetFlow, and packet sniffing
- Features an all-in licensing model with no extra charges or limitations for advanced features such as traffic monitoring, reporting, or remote site monitoring
- Experienced support engineers and the PRTG development team are available to answer questions around the clock
- Designed to monitor LANS, WANs, servers, Web sites, appliances, URLs, and more

**Best For:** Companies looking for around-the-clock support for continuous monitoring tools.

**Price:** Licenses start at \$400 for 100 sensors and increase from there depending on the number of sensors needed

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

## Anue 5288 Net Tool Optimizer



The 5288 NTO (Net Tool Optimizer) is a high-density network monitoring switch that provides up to 64 10GbE ports or up to 16 40GbE ports in a compact 2U form factor. The Anue 5288 NTO aggregates data from multiple visibility points in a network and ensures the delivery of critical network traffic to the essential monitoring tools. The Anue 5288 NTO helps large enterprises monitor an increasing number of 1GbE, 10GbE and 40GbE ports with their existing monitoring tools.

- Features front-to-back airflow and scalability for configuration options
- The non-block architecture (with 640Gbps total bandwidth) allows for network access point and full line monitoring tool traffic sharing
- Saves energy with a 2U design and low power consumption
- Capable of reducing network downtime

**Best For:** Ideal for enterprise data centers with increased bandwidth requirements due to higher processor density, virtualization, and SANs.

**Price:** Starts at \$72,000

## Extreme Networks Ridgeline



The Ridgeline network and service management tool from Extreme Networks is a scalable, full-featured solution designed to provide timely updates for IP-based networks while simplifying network configuration, provisioning, and troubleshooting. Data center managers can get a topology view of the network, monitor with flexible scripts, and acquire network-wide data for both devices and users.

- Customizable installation lets administrators control the service management features
- Data Center Feature Pack supports ExtremeXOS network virtualization
- EAPS monitoring and configuration checking
- Includes audit logs and role-based access control

**Best For:** End-to-end monitoring of critical network processes.

## Infinera ATN

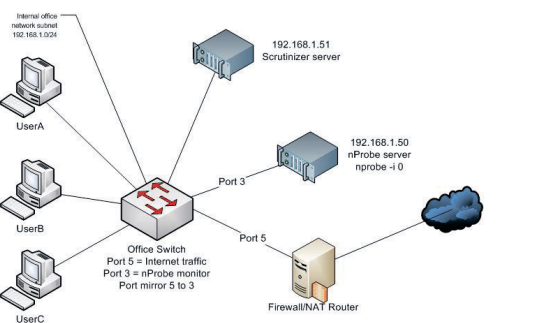


Capable of providing streamlined service management within the entire network, Infinera's ATN platform is a budget-friendly, small form-factor granular add/drop solution. ATN reduces the need for intermediate switching equipment, thanks to its bandwidth virtualization feature.

- Features power management automation, simple installation, and universal service modules
- The forecast-tolerant design helps regulate network costs and traffic growth
- Includes multi-service aggregation line cards, optical amplifier, and a high-density CWDM/DWDM platform

**Best For:** Applications such as regional network extensions, metro core extensions, and wireless backhauls.

## Plixer nProbe



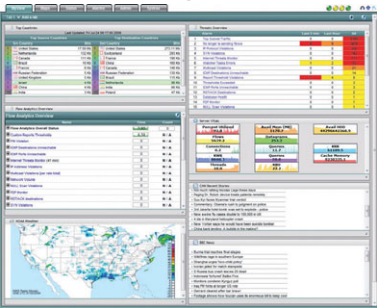
Plixer nProbe is a NetFlow v5/v9 probe that can be used to monitor NetFlow flows. With nProbe, you can analyze Gigabit networks at full speed with little to no packet loss. In addition, it functions as both a probe and collector when installing the nTop collector option.

- Analyze NetFlow flows generated by your border gateway
- Replaces the embedded, low-speed NetFlow probe available on your router or switch
- Sends flows towards a collector

**Best For:** Managing a network that supports packet reception via passive tap or switch mirror ports.

**Price:** \$495

## Plixer Scrutinizer NetFlow & sFlow Analyzer



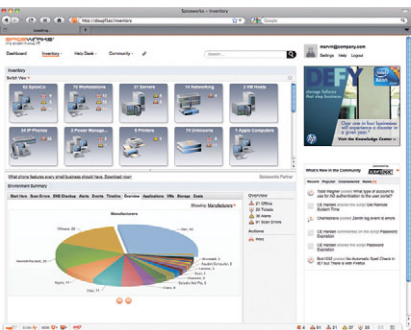
The Scrutinizer NetFlow Traffic Analytics solution from Plixer provides organizations with powerful insight into application traffic, bandwidth utilization, and security threats while providing powerful troubleshooting and forensics capabilities.

- Data center managers can archive infinite years of data during different periods
- Receive reports for top applications, conversations, flows, protocols, subnets, and other devices
- Supports reporting and alarming for SYN, NULL, FIN, XMAS scans, RST/ACK worms, and more

**Best For:** Monitoring, saving, and assessing data movement on the network.

**Price:** Free 30-day trial; \$3,495 to upgrade

## Spiceworks



The Spiceworks social business network for IT combines free network management and help desk software with a rapidly growing Facebook-like community of IT professionals. More than 1.7 million IT pros at organizations of all sizes use Spiceworks to collaborate and manage everything IT, from cloud-based services to on-premises technology products.

- Monitor recently changed software and find any software that's scheduled for compliance checks
- Manage your cloud network via a dashboard that displays ISP, DNS, rackspace, and Google apps
- Create and receive alerts for Windows when you want them

**Best For:** Keeping track of disk space, antivirus subscription renewals, servers, and bandwidth utilization.

**Price:** Free

SIX QUICK TIPS

# Secure Your Data Center Perimeter

Learn To Control Access & Thwart Unauthorized Guests

**DATA SECURITY BEGINS WITH** controlling physical access to your organization’s critical environments, because one rogue individual standing in front of a server is no less dangerous than a hacker in another country. If you’re relying on a few closed doors and a scattering of watchful employees to repel unauthorized users, it may be time to put together a more comprehensive plan. We’ve rounded up some ways you can improve your perimeter security and reduce your facility’s attractiveness to interlopers.

✓ *Be Unapproachable*

When your building is your data center, it isn’t enough to be standoffish. Beyond blending into the scenery and minimizing signage, Damon Petraglia, director of forensic and information security services at Chartstone Consulting, says that your first line of defense should start far out from the facility, with a fence and controlled access to the property before you even get to the facility. “Depending on the sensitivity of systems and data contained within, [controlling access] may be done with a manned guard house which will check persons wishing to enter the property against an access authorization list,” he says. Reducing trees and shrubbery around the building further discourages unwanted loitering, and earthen berms can sometimes provide inexpensive alternatives to fences.

Remember that simply peering through windows could give people access to sensitive information such as where key infrastructure elements are housed. “A lot of times you see data centers that have no windows, but the last few I’ve looked at either have windows in them or spaces where you can see directly into the data center,” says Joseph Beal, chief information security officer at Creative Computing Solutions ([www.ccsin.com](http://www.ccsin.com)). “Stay away from windows if you do have them, or black them out if the windows are in a place where they can provide information.”

✓ *Opt For Multiple Authentications*

A single method of validating access—things such as swipe cards or passcodes—offers only one barrier to entry into restricted spaces. Matt Barnette, vice president of sales and marketing at AMAG Technology ([www.amag.com](http://www.amag.com)), says that forcing the use of multi-authentication access controls is much more secure. “Typically, the way we recommend these facilities to be locked down is to use a card access system that has the ability to have multiple factors of authentication, not only using a card to gain access to the perimeter or to a door, but also having a card plus PIN, and even in some higher security areas, having a card plus biometrics.”

One security layer that’s often overlooked is at the rack level. Beal says that’s a perfect opportunity to increase authentication without incurring much additional cost. “For the company that

has issues with cost, one inexpensive thing to do is to make sure at the very least to have racks that can be locked,” he says. Beal believes that organizations should have “at least three means of authorization, whether that’s through a key lock at the rack or some kind of biometrics or a swipe card to get into the facility or computer room.”


✓ *Add Video*

Barnette suggests that once a data center has established a security baseline, it should overlay that with a video surveillance system that can also provide some intelligence by being able to put in a perimeter. Improved camera technologies on both the hardware and software sides provide data centers with better options for tightening security. “Most of the new camera systems have the ability to define a virtual perimeter even without a sense line, and if something crosses that line in the video, it would actually generate an alarm,” Barnette says.

Surveillance and closed-circuit cameras are much less cost-prohibitive than in years past. “IP-based cameras and analog cameras have become so inexpensive and are invaluable,” Petraglia says. “There are even open-source tools that can be downloaded to create an alert for security staff when motion is detected on a particular camera. I highly recommend using trusted and known products when it comes to security; however, there are low-cost and free alternatives which are better than nothing.”

✓ *Beware Of Social Engineering*

Petraglia says that gaining access through social engineering continues to be a major problem for data centers and other critical environments. “I have performed social engineering tests throughout the country at federal and corporate secure data centers and have managed to talk my way into most and bypass all security measures,” he says. He points to tailgating as a primary example of how an unauthorized user can quickly gain access to otherwise secure areas and encourages data center managers to prohibit smoking on the property as a first step toward eliminating tailgaters. “‘Piggy backing’ or ‘tailgating’ a smoker into a facility is the No. 1 way I have gotten into secure facilities,” Petraglia says. “If you force smokers off the property, it dramatically limits the opportunity to follow that person into the facility.”

“The weakest link in any system is the actual users themselves who are gaining access to the facilities,” Barnette says. He believes that well-documented policies and procedures, coupled with thorough user training, are important pieces of an overall security plan. “Simple things like tailgating are so very prevalent,” he says. “You hold the door open because that’s our custom here in the North America, and somebody walks in right behind you that shouldn’t even have access to the facility.” 

## Smartest Tip:

✓ *Ensure Security Systems Are User-Friendly*

Robust security programs are only as good as the operators monitoring them, so make the effort to ensure your systems are user-friendly. “Even in some of our highest security applications, they have a very detailed installation with cameras and access control and a lot of monitoring, and yet they don’t put a lot of thought into the user aspects,” says Matt Barnette, vice president of sales and marketing at AMAG Technology ([www.amag.com](http://www.amag.com)). “Who’s actually going to be monitoring the system? How easy is it for them to use the system that they’re going to be monitoring?” He says that usability “tends to be a big issue, because the biggest link is the operators and the actual card holders that have valid access.”

## Most Overlooked Tip:

✓ *Keep Authorization Lists Up-To-Date*

Accurate and complete authorization lists are a must in any security program, no matter the methods you use or the complexity of your systems. Damon Petraglia, director of forensic and information security services at Chartstone Consulting, says that maintaining access authorization lists and ensuring the security staff and systems are constantly updated to reflect who is and who is not authorized to access the facility is one of the most often overlooked ways that data centers can mitigate their physical security risks. “Access authorization lists should be updated often (daily) to ensure only authorized individuals gain access,” Petraglia says. “If the systems and data do not warrant a manned gate, then the gate should be controlled with an access card, PIN, or biometric device.”

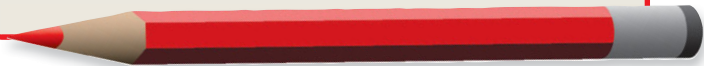
## BONUS TIPS:

✓ *Limit entry points.*

“All doors should have no handles on the outside. They should function to be opened from the inside only,” says Damon Petraglia, director of forensic and information security services at Chartstone Consulting. “The only exception should be a monitored entrance which everyone must use.”

✓ *Lock down the loading dock.*

Joseph Beal, chief information security officer at Creative Computing Solutions ([www.ccsin.com](http://www.ccsin.com)), says that loading docks are often the easiest way to get into a data center, and just about anyone has “unfettered access to the major part of the data center via the loading docks. I think a major issue in data centers is to make sure to secure your loading docks and have access controls in place.”





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## FEATURED SERVICE

### “Green” Tape Disposal

Recycle Your Media Buys Excess New & Used Data Tapes

IN TODAY’S DATA CENTRIC and increasingly “green” world, it is vital that organizations effectively back up proprietary files while finding environmentally friendly ways to dispose of media storage.

According to storage industry reports, experts are pointing to the revival of tape cartridges as proven by Spectra Logic’s recent release of a 3.6 Exabyte tape system. Not only is tape increasing in capacity and speed--it is reliable and can be easily encrypted and moved off-site for maximum protection. Plus, it’s 100% recyclable/reusable.

Most enterprises have policies requiring out-of-date, archived data on backup tapes to be destroyed. This leaves organizations with the task of considering how to accomplish this mission. The old-world mindset saw organizations shred or incinerate tapes, which either created large amounts of waste to be sent to landfills or the emission of toxic chemicals during incineration.

The new, earth friendly way sees end-of-life tapes undergo a proprietary data eradication process through certified recyclers such as Recycle Your Media (RYM). Fully recycled tapes are then made available for repurchase by organizations looking for top-quality data storage at an affordable cost.

RYM purchases quantities of 100 or more tapes from organizations and puts them individually through an intense data eradication process. Highly expe-



### RECYCLE YOUR MEDIA

(949) 757-0100  
[www.recycleyourmedia.com](http://www.recycleyourmedia.com)

rienced technicians obliterate any lingering data, then chemically clean and carefully inspect all cartridges--one out of five tapes doesn’t make it through the stringent 12-point recertification process. Once data eradication is performed, RYM can provide legal proof of data eradication to meet all organizational compliance requirements.

Certified tapes are then offered for resale at lower prices. In effect, it turns an IT expense into a modest source of income for the companies that recycle, while helping provide economical storage solutions for those in desperate need of cost savings.

Currently RYM is calling for all varieties of tape formats, from legacy to recent.

# Develop Your Mobility Approach

Determine Employee Needs, Select Specific Devices & More

**MOBILE DEVICES ARE EVERYWHERE** in the business world today. Smartphones, tablets, and notebooks make it easier to work while on the road as well as at the office. But companies can encounter problems when it comes to determining how to implement mobile devices in the workplace and whether it is necessary to do so.

“Mobile data has become important in today’s hyper-connected world, and lack of it is a competitive disadvantage,” says Tim Doherty, research analyst at IDC. “Most companies should be, at the least, equipping key employees with smartphones and/or tablets with mobile email access and access to key back-end applications.”

According to Doherty, companies will need to have some kind of mobile presence to be successful in the future, and it’s a good idea to start formulating a mobility approach now so you’ll be in a better position to adapt. There are a lot of factors that go into creating a mobile device plan.

## Understand Company Needs

Before you even start looking at purchasing mobile devices, assess the needs of your employees. Go through each department, look at the daily tasks of your workforce, and then decide whether mobile devices are necessary for employees to do their jobs.

“The key thing is not to treat all users alike,” says Phillip Redman, research vice president at Gartner. “Segment your users to be able to better provide technology for them—devices, applications, and network services. One size doesn’t fit all, so make sure to customize to the needs of the user segment.”

Different devices have different features and, therefore, not all of them are a fit for every employee. You’ll save money in the long run by only deploying devices your workers will frequently use based on their needs. “Some employees, like the road warrior type, might need just a tablet and a smartphone while desk-bound employees will need a notebook and might not need a smartphone,” says Christian Kane, researcher of infrastructure and operations at Forrester Research.

## Choose The Right Mobile Devices

After determining company needs, you should look at the specific features of each mobile device. Smartphones, tablets, and notebooks are available in a variety of operating systems, screen sizes, storage capacities, memory, and so on. A good starting point is to choose an OS that supports the apps you want to use, and then choose from the available mobile devices with that OS.

If possible, you should try to match your mobile devices, as well. This means buying smartphones, tablets, and notebooks that have similar features or run the same OS. Deploying compatible devices will simplify implementation and make it easier for employees to pick up new devices and know how to use them.

## Leave Employees To Their Own Devices

The alternative to buying new smartphones, tablets, and notebooks is to allow your employees to use their personal mobile devices for work tasks. You can save money by avoiding investing in new devices and utilize existing devices instead. However, following this practice

can be cause for a few problems, including security-related issues, so you may have to take further precautions if you decide to allow this, and you’ll also have to prepare to support multiple operating systems.

“Firms need to support the platforms getting the most consumer attention, but [they] should be able to support more platforms as needed,” says Kane. “Helping these firms do this are mobile device management tools, which support multiple platforms and allow firms to manage and secure those platforms.”

## Keep The Future In Mind

Technology is constantly evolving, so you shouldn’t be complacent by choosing

and implementing a mobile device and then moving on to something else. You should always look toward the future and anticipate how company needs may change.

“Companies need to know that this isn’t a ‘set it and forget it’ type of strategy,” says Kane. “The devices, applications, and policies are all evolving, and it’s all very nascent. Firms need to continuously update their policies as they become more experienced with the technology, and so do their employees. They also need to listen to their employees’ needs and have a strategy in place that allows them to react to those needs much more quickly.”

## Key Points

- Look at the needs of individual employees and search for devices that will fulfill those needs.
- Consider letting employees use their own devices in the work place and put IT systems in place that will manage and provide security for the personal smartphones, tablets, and notebooks.
- Always plan for the future. Make sure the mobility approach you put in place is adaptable to the needs of your employees and to evolving technologies.

## Action Plan

Christian Kane, researcher of infrastructure and operations at Forrester Research, provides a simple series of steps, which he says should be “reviewed and updated at least every six months” and planned alongside your mobile application strategy:

- Segment your workforce and assess their mobile technology needs.
- Support employee-owned devices, if possible.
- Invest in a mobile device management solution to support multiple platforms.
- Create a new mobile policy that addresses new technology, its usage, and access.
- Explore and look to invest in an enterprise application store to help manage and provision mobile applications.

## Get Started

Besides the costs of buying and deploying different mobile devices, there are other expenses that will come into play when implementing devices that fit into your mobility approach.

This includes mobile device management programs, VPN solutions, and more.

“Having multiple solutions can be costly, but hosted infrastructure and cloud services are helping to reduce some of the costs here,” says Christian Kane, researcher of infrastructure and operations at Forrester Research. “BYOD (bring your own device) programs have the potential to reduce cost in some instances.”

## Top Tips

Tips for choosing the best mobility approach from Tim Doherty, research analyst at IDC:

- ✓ Gather research and find a trusted partner. If you have a VAR, tech partner, or trusted mobile operator, lean on them for support, solutions, and so on.
- ✓ Choose mobile devices with available apps that can cut operating costs, save time, route drivers more efficiently, generate additional revenue, allow for filling more orders, or completing other tasks that will help your business.

These tips for choosing the best mobility approach come from Christian Kane, researcher of infrastructure and operations at Forrester Research.

- ✓ Implement simpler applications—such as email, contacts, and calendars—and then move on to more complicated applications.
- ✓ Consider application virtualization solutions that can be used to deliver Windows apps to smartphones, tablets, and other devices as well as give users access to a secure network or VPN.

BUYING GUIDE



BUYING TIPS:

PDU

**WHEN PDUS BEGAN** appearing in data centers and networking rooms a couple decades ago, they were little more than pricey power strips. Since then, PDUs have evolved into integral components of a modern power distribution infrastructure, delivering correct voltage and current to multiple outlets. Intelligent PDUs are even capable of measuring current load at the PDU level, sounding user-defined alarms, reporting levels and power cycling remotely, and supporting external temperature and humidity sensors. With so much riding on continuous uptime, here are some things to keep in mind when shopping around for the perfect PDU to keep things humming along.

**Knowledge is power.** According to Brett Femrite, director of business development at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)), you have to do your homework prior to making a PDU purchase. “It is critical that the PDU you select match up with your power consumption needs and server/network equipment,” he says. Femrite recommends making note of the type and quantity of outlets needed and whether you can daisy-chain for added capacity. Although the ability to expand capacity might not be critical now, having the option could save money down the road. Femrite also highlights form factor (vertical/horizontal, rack/wall-mountable, or OU), the amperage the PDU needs to support, and the type of PDU that best serves the requirements

and needs of the data center as other key factors to consider.

“There are generally three types of PDUs: basic, metered, and switched,” Femrite says. “Each type comes with its own set of features.” A basic PDU, according to Femrite, lacks monitoring and remote administration capabilities but focuses on simple and effective power distribution. The next best option is a metered PDU, which has everything a basic PDU has, but adds a meter that lets users visually track amperage and GUI management software that lets users monitor the aggregate current being drawn on each PDU in real time. Switched PDUs support everything on a metered PDU and add local and remote control capabilities on a per-outlet level. Redundancy is another of Femrite’s key points. “A dual-circuit PDU provides an added layer of fault tolerance by offering two power inputs,” he says.

**PDU pitfalls.** The biggest mistake you can make in purchasing a PDU is getting one that isn’t as capable as you need it to be. According to Femrite, “If you don’t precisely match up the PDU with your power consumption needs, taking into account anticipated growth/increases, you can wind up having a breaker tripped, which of course can cause a power outage that can be catastrophic.”

Some factors that are easy to overlook include finding the right location (which is

Buyers’ Checklist

- ✓ **Know your numbers.** Determine how much power you’re going to draw and that you have the right voltage and amperage numbers.
- ✓ **Look for environmental monitoring capabilities.** If stability and cooling are a concern, make sure to purchase a PDU with environmental monitoring features and remote access and control capabilities.
- ✓ **Pick a form factor.** Determine whether you want a rack-mountable, wall-mountable, or OU form factor PDU.

Key Terms

**PDU:** A power distribution unit is any device that provides electrical power to servers, networking components, storage devices, and other data center equipment.

**Intelligent PDU:** An intelligent PDU is any PDU that offers Web-based management, meter power at both the PDU and individual outlet level, and real-time power monitoring.

**Metered PDU:** These PDUs can track current draw at the PDU level and display the data locally and often remotely, as well.

**Switched PDU:** Users of switched PDUs can remotely switch connected devices on and off; some even afford outlet management technology.

typically dependent on the form factor), how a switched PDU will be connected to the network, and how far the PDU will be from its power source. “It’s much easier to tie up some extra power cord than to move a rack full of equipment,” Femrite says.

**Plan ahead.** Purchasing a PDU is a no-brainer, but getting the right one to meet your needs will require some careful consideration and a little planning ahead. Manage that, and everything else will fall into place. ■

Right Here!

All In A No-Nonsense Format

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PRODUCT SPOTLIGHT

# PDU

Product

Black Box Metered Vertical PDU

Description


Black Box's Metered Vertical PDU is a space-saving strip with 24 NEMA 5-20R outlets that measures and displays AC current. It mounts to the vertical rails of a cabinet or rack.

- Three-digit LED display shows current draw
- Alarm notifies you when current threshold has been reached
- Includes a 15-foot (4.5m) NEMA L5-20P power cord

**Best For:** Adding outlets in tight spaces while keeping track of current draw.

**Price:** \$185.95

**Contact:** (877) 877-2269 | [www.blackbox.com](http://www.blackbox.com)



Product

Black Box Outlet-Managed PDUs


Description

The Black Box Outlet-Managed PDU provides complete power control for network devices, including capabilities such as remote and timed individual outlet switching, auto on/off/reboot, load shed switching, and outlet sequencing. It enables power switching for individual network devices or for groups of equipment in an effort to allow data center administrators to save energy by automatically powering down equipment at night or on weekends when it's not being used.

- Monitors equipment power, changes in current levels, circuit breaker status, temperature, and unauthorized access attempts
- Sends alerts by email, text, SNMP, SYSLOG, or audible alarms
- Generates reports with detailed records of current and power consumption
- Can be set to ping equipment at set intervals and reboot if there's no response

**Best For:** Reducing energy and personnel requirements in data centers.

**Contact:** (877) 877-2269 | [www.blackbox.com](http://www.blackbox.com)



Product


Cyber Switching ePower Product Family

Description

Cyber Switching's ePower family is targeted at data center managers searching for greener solutions that integrate rich features while providing high reliability and great value. Patented Individual Outlet Metering provides billing-grade metering for each outlet at an accuracy of 2% or better. Utilizing the unit's full-color LCD touchscreen or a standard Web browser, IT personnel can be kept up-to-date on critical information, including real-time power information, load details, input line utilization, and system status.

- Patented Cyber Breaker technology protects equipment by limiting overcurrent conditions to a single outlet
- Color LCD touchscreen for local management and setup
- Two high-speed USB ports support up to 127 peripherals
- 60+ high-density PDU configurations
- Network connection for remote monitoring and management of your power usage

**Best For:** Companies looking to implement a comprehensive data center management plan.



Product

PDUs Direct C-24VDX413A9

Description


PDUs Direct's C-24VDX413A9 is a metered three-phase rack-mountable PDU that lets users load balance using LED load meters. This zero U unit features 12 IEC C13 and 12 IEC C19 outlets, a three-phase IEC 60309 60A in-feed plug, and three integrated local amp meters. This metered rack PDU provides nearly twice the power density of a standard 208V circuit and robust power distribution for your equipment without taking valuable rack space.

- Steel case enclosure
- Mixed C13 and C19 industrial-grade outlets
- High-quality powder coat
- Input current monitor with true RMS reading
- Hardwired IEC 60309 power cord
- 60A

**Best For:** IT managers who need to save space for equipment and ventilation.

**Price:** \$1,045

**Contact:** (888) 751-7387 | [www.pdusdirect.com](http://www.pdusdirect.com)



Product

Rackmount Solutions InfraPower MT-Monitored Rack PDU Series

Description


The InfraPower MT-Monitored Rack PDU series from Rackmount Solutions is designed for mission-critical data center applications. The units offer local and remote RMS current monitoring, a digital RMS amp meter that is easy to read, and a Web-based GUI for real-time management and monitoring. Available in both vertical and horizontal form factors, the PDUs have between two and 24 receptacles and feature a two-year replacement warranty.

- Sends email alerts
- Users can set their own alert parameters
- Supports a range of data center output receptacles
- Can daisy-chain up to 16 intelligent PDUs

**Best For:** Mission-critical data center hardware monitoring.

**Price:** Starts at \$440

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)



Product

Rackmount Solutions InfraPower MTS-Switched Rack PDU Series


Description

The InfraPower MTS-Switched Rack PDU from Rackmount Solutions is an industrial-grade offering that provides local and remote RMS current monitoring and control. It features a digital RMS ammeter for amperage monitoring, and the Web-based GUI lets users monitor and control the individual receptacle outlets either locally or remotely. Backed by a two-year replacement warranty, the MTS-Switched Rack PDU Series meets or exceeds all international standards for rack-mounted power distribution units and is UL-, UCC-, and CE-certified.

- Accurate, easy-to-read RMS ammeter for local aggregate monitoring
- Web-based GUI management and control
- Email alerts triggered by user-defined parameters
- Supports a daisy-chain connection of up to 16 intelligent PDUs
- 0U (vertical) and 1U or 2U rackmount styles available

**Best For:** Mission-critical data center hardware monitoring.

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)



PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

iStarUSA Group  
Claytek WA-PD016 PDU



The WA-PD016 from Claytek (powered by iStarUSA Group) is a 16-outlet power distribution unit that provides protection from power surges and lightning. Set in a vertical orientation, the UPS is modular for convenience.

- 16 outlets
- Modular and replaceable surge unit
- Power and surge LED indicators
- Circuit breaker with prompt overload protection response
- RoHS-compliant

**Best For:** Small businesses in need of an easily managed PDU solution.

**Price:** \$110

**Contact:** (888) 989-1189 | [www.istarusa.com](http://www.istarusa.com)

Packet Power  
Smart Power Cables



Packet Power Smart Power Cables offer the simplest and most affordable way to monitor the power coming into your racks. Inserted between your power strip and its power source, the cable transmits complete power usage data in real time over a wireless network where a small Ethernet Gateway gathers data from hundreds of cables and transmits it to your local monitoring application or to Packet Power's cloud-based Energy Analysis Service.

- Single- and three-phase power: 10 to 100 amps, 100 to 240 volts
- All connector types, including NEMA, IEC, Hubbell, and RussellStoll
- Supports any mix of circuit and device-level monitoring
- Completely vendor-neutral
- Grows easily from a few circuits to hundreds
- Supports single- and multiple-facility installations
- Costs 30 to 50% less than smart PDUs

**Best For:** Data centers that value ease of installation and an affordable price.

**Price:** Starts at \$125

**Contact:** (877) 560-8770 | [www.packetpower.com](http://www.packetpower.com)

PDUs Direct C-12H2-L30M



The C-12H2-L30M from PDUs Direct is an industrial-grade metered rack-mountable 208V PDU with 12 IEC C13 outlets, a twist-lock NEMA L6-30P in-feed plug, and a local amp meter. This unit provides high power density and dependable power distribution for your equipment racks in a 1U form factor. The Metered PDUs include local LED input current monitoring, which lets users precisely measure the amps drawn and observe the impact of new equipment as well as cumulative current draw.

- Steel case enclosure
- Industrial-grade outlets
- High-quality powder coat
- Input current monitoring with true RMS reading
- Hardwired L6-30P power cord
- 30A

**Best For:** IT managers who need to save space for equipment and ventilation.

**Price:** \$270

**Contact:** (888) 751-7387 | [www.pdusdirect.com](http://www.pdusdirect.com)

Raritan  
Intelligent Asset Tracking



Raritan's AMT (Asset Management Tag) and AMS (Asset Management Sensor) solutions help give data center operators an accurate, automated, real-time inventory of all IT assets and their locations, down to the 1U level. AMT and AMS can be combined with Raritan's dcTrack data center infrastructure management software, which is designed to track assets, determine capacity in a number of areas, and manage changes.

- Minimize the hours needed to track IT assets, saving time and money
- Quickly conduct physical inventories with accuracy and pass audits
- Efficiently consolidate or virtualize data centers
- Improve the IT department's alignment with business and management objectives
- Optimize IT strategic and tactical decision making by tracking changes in real time

**Best For:** Intelligent, real-time asset management.

**Price:** AMT starts at \$699; AMS starts at \$700

Server Technology POPS  
Switched CWG-24V5 415V CDU



Server Technology's POPS Switched CWG-24V5 415V 3Ph 20/30A Busway 18xC13 & 6xC19 with PIPS combines all of the features of a Smart CDU with the ability to provide power monitoring per inlet/infeed. This power information per infeed replaces branch circuit monitoring devices typically installed in the power distribution panel or remote power panel (RPP) with higher accuracy and lower cost monitoring of each circuit attached to the CDU. Also included is a mixed outlet Cabinet Power Distribution Unit with the network and serial-based power monitoring and alerting capabilities of the Switched Cabinet CDU plus the ability to monitor:

- Current Load (A)
- Voltage (V)
- Power (W)
- Apparent Power (VA)
- Crest Factor
- Power Factor

**Best For:** Data Centers that want granular, accurate power information.

**Contact:** (800) 835-1515 | [www.servertech.com](http://www.servertech.com)

Server Technology POPS  
Switched CWG-48VD/VY CDU



This Sentry POPS/PIPS CDU combines all of the features of a Switched CDU with the ability to provide power monitoring per inlet/infeed. Power information per infeed includes current, voltage, power, apparent power, crest factor, reactance, power factor and accumulated energy. This information replaces branch circuit monitoring devices typically installed in the power distribution panel or remote power panel (RPP) with higher accuracy and lower cost monitoring of each circuit attached to the CDU.

- Per-outlet data includes current load, voltage, power, apparent power, crest factor, and power factor
- Available in 0U, 1U, and 2U form factors
- Best when used in conjunction with SPM v5.0

**Best For:** Data Centers that want granular, accurate power information.

**Contact:** (800) 835-1515 | [www.servertech.com](http://www.servertech.com)

# Perform A Data Center Overhaul

Three Basic Steps To Mirror Any Large Project

**SO YOU'RE THINKING** of rebuilding your data center. Whether it's a complete overhaul, a revamp, or a reconfiguration, the setup doesn't come until after doing a data center analysis and shopping for the right equipment.

Enterprises are overhauling their data centers for many reasons, whether it's to make better use of server efficiencies, to get rid of outdated servers, to upgrade to the latest virtual technology unavailable during the last overhaul, or to take many applications into the cloud, says Peter Blau, president and chief executive officer at IT consulting firm IT Data Inc. Enterprises are usually looking to protect applications, consolidate server space, and cut data center operating costs.

"Say your data center isn't huge," Blau says. "These days you have choices. You can build your own servers, rent whole servers or space on servers, rent

### To Virtualize Or Not?

The difference between simply continuing to update servers and overhauling the data center lies in bringing in new technology such as cloud or virtual servers and actively seeking to consolidate server space, IT Data Inc.'s Blau says.

As part of your initial assessment, if you're not already using virtual servers, you'll want to look at whether they make sense for your enterprise and how you'd carve out space and power for them, Blau says.

Many IT managers want to fully exploit the capabilities and costs of virtual servers by consolidating applications on them, he adds.

"In the old days, you'd say, 'Over the course of three years, I'm going to replace my servers on a replacement schedule to get more processing power,'

consolidate servers, but they're missing the other benefits, like you can change configurations easier and shift around processing power and use them for disaster recovery. You'd want to take time to understand the benefits."

When looking at virtual servers, you should also compare the costs of outsourcing some data center needs to an off-premises virtual server provider, says John Caughell, marketing coordinator at network technical support provider Argentstratus.

"The costs can be substantially less, and the ability for users to have access from anywhere goes up," Caughell says. "If gaining more security and accessibility is what the business needs, owning the data center may not be the ideal solution for the enterprise."

For instance, after the assessment, some SMBs may find virtualization too

### Key Points

- A data center overhaul can be managed similar to other large projects.
- Investigate virtual servers or applications in the cloud as part of the overhaul.
- Cooling methods have changed in the past 10 years and should be considered while you're revamping, because newer methods can cut costs.

manager of Eaton's distributed power quality division ([www.eaton.com](http://www.eaton.com)).

"Know which servers aren't doing any processing," Tardy says, adding that servers often sit idle without IT managers' knowledge.

The assessment will help you determine how to best invest in new servers, and determine the percentage of those servers should be traditional as opposed to virtual, Blau says. An assessment will also give you a good idea of what applications may be located in the cloud at less expense and clues you into networking equipment that will likely need upgrading.

### Product Search

While you're bringing in new equipment, you may want to investigate other data center upgrades systems capable of saving your enterprise money, Eaton's Tardy says.

For instance, if your data center was designed more than 10 years ago, you'll want to take a second look at how you cool it, he says. Cut cooling costs and you'll save a lot of money.

"It used to be you put in a big air conditioning unit to maintain temperature all the time, usually 75 degrees," Tardy says. "But servers and networking equipment don't need such a low ambient temp to operate. They could operate up to 80 degrees."

The latest data center designs feature separate hot and cool aisles to better maintain and manage temperature, he adds.

"You might use solutions like airflow management, where instead of just trying to maintain cool inside of the data center, you just evacuate the heat by putting chimneys on top of rack enclosures to get rid of the heat."

This solution is best for data centers in Northern climates and is cost- and eco-friendly, he adds.

It may sound overwhelming, MODIS' Smith admits, but broken down into his three steps, overhauling or revamping a data center is really no different than any other project you've successfully managed in the past, he says. **P**

"These days you have choices. You can build your own servers, rent whole servers or space on servers, rent whole racks somewhere, or have another company manage your IT and use their equipment."

- IT Data Inc.'s Peter Blau

whole racks somewhere, or have another company manage your IT and use their equipment."

But let's say you want to maintain the data center in-house. The overhaul must begin with one move. IT managers leading an overhaul will first need to undertake a system assessment, says Dean Smith, a project consultant for IT staffing company MODIS. Smith has more than 14 years experience in infrastructure technology project management.

Smith sets out three basic tenets IT managers at SMBs should follow when revamping a data center.

The first step, the assessment, needn't be overwhelming, he says.

Make an assessment of current equipment and of general inventory. Then, look at the equipment's performance reports and also determine when its end of serviceable life will fall. This will help you see what needs to be and what can be replaced.

Second, manage the overhaul the same way you would any large project, Smith adds. Begin by comparing options in terms of consolidation of servers, virtualization, and the cloud. Line up the pros and cons of each one, costs, and benefits. Then make a decision, he says.

For the third step, you'll need to develop and work through a migration plan, Smith says.

and you wouldn't talk about consolidating applications, but more about upgrading servers," Blau says.

"But to look at virtualization, you'll need to know the benefits," he adds. "Some people say they're doing it to

expensive and will seek to move their entire data center to the cloud, Blau says.

You'll also want determine during the assessment whether servers already in use are running full capacity, says Hervé Tardy, vice president and general

### Top Tips

- ✓ The overhaul is a three-step process: assess, find the right equipment, and migrate to it.
- ✓ Consolidating servers saves space and money.
- ✓ Investigate all the benefits to both virtual and traditional servers and to hosted applications before you make any purchases.

TECH IN DEPTH

Key Points

- Telepresence consists of three main aspects: video, audio, and manipulation.
- Key telepresence technologies include broadband networking, cameras, microphones, phones, and collaboration software.
- Telepresence lets remote parties interact as though face-to-face to make lasting impressions, make critical decisions, and increase revenues.

# Telepresence Rundown

## You Don't Have To Be In The Same Room To Have A Face-To-Face Meeting

*COMMUNICATION LIES AT THE CORE of every business transaction, whether it's business-to-business, business-to-consumer, or business-to-government. Telepresence is a collection of technologies that aim to re-create the sensory experience of talking face-to-face with one or more people who are not present. It happens in real time and relies on sophisticated networking capabilities for both the remote and local participants.*

Unlike a simple phone call, where audio cues are all the listener has to go on, and email, where the written word is the only context from which to derive meaning, telepresence is capable of transmitting facial expressions, body language, and subtle gestures, enabling organizations and those with whom they communicate to make critical decisions, eliminate travel expenses, and leave a lasting impression. In short, telepresence helps you connect with people in meaningful ways and, in turn, can help grow your business and improve your bottom line.

### ■ NEGLECTED SENSES

The two central aspects of telepresence are vision and sound. The visual aspect is satisfied using one or more cameras, whether built into mobile devices such as notebooks, tablets, or smartphones or installed in a room designated for video communication. Depending on the size of the room, the cameras may be

focused on each meeting participant or several at a time. Most often, the camera system in a telepresence-capable room is paired with an integrated audio system capable of recording sound and transmitting it to the remote participants. In mobile devices, a built-in microphone will do the work of transmitting voice.

Large telepresence rooms at organizations that commonly host meetings between several local and remote participants at once may require a speakerphone with two or more satellite mics and speakers or several independent microphones strategically positioned in front of participants.

By having both audio and video systems integrated into a single system, possibly in conjunction with a sophisticated speaker phone, organizations can minimize audio/video syncing issues that can plague non-unified systems.


Collaboration software also plays a vital role in a modern telepresence scenario.

This software enables participants to add comments, draw lines and sketches on a shared document, and view and share videos, all in real time.

### ■ A CONTINUALLY DEVELOPING TECHNOLOGY

Because telepresence depends so much on modern networking technologies, it's a collection of technologies that are still very much in their infancy. As network speeds increase and bandwidth becomes less of a limiting factor for telepresence, new technologies

are making their way to telepresence systems. For instance, high-definition video cameras can heighten the visual fidelity of both participants and deliver a more realistic meeting experience.

Additionally, more and more telepresence systems are using positional microphones capable of transmitting stereophonic sound rather than the less-realistic monaural sound you experience when you speak on the phone. This helps participants more accurately locate the speaker at any given time, especially when large groups are in the same teleconference. 

## Advanced Telepresence

Manipulation is another aspect of telepresence, but its higher-tech nature means that it has largely been limited to specialized forms of telepresence in use in select industries, such as scientific research, engineering, and medical technologies. This aspect involves the ability to move, touch, and manipulate a remote object using some form of movement sensors (wired gloves, movement-sensing cameras, etc.). If the manipulated object is virtual, then both participants will be able to witness a digital representation of the object manipulation. For interacting with physical objects in a remote location, robots or robotic appendages mimic the remote operator's movements.

A less complicated form of manipulation is called haptic teleoperation, which merely provides the telepresence participants with some tactile feedback, such as the weight, firmness, size, or texture of a remote object.



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# Building A Business Case For Unified Communications

Convince Business Executives That UC Is Worth It

**FOR IT EXPERTS**, gauging the prospective value of a unified communications deployment is often an effortless task due to the technology’s tendency to save time, effort, and eventual costs. But conveying that value to executives who aren’t in the communication trenches can be a difficult endeavor that demands a precise plan of attack.

Although UC is now an established set of technologies, executives aren’t always convinced of its benefits. This can be particularly evident at small and mid-sized enterprises where executives might be hesitant to implement a wide-ranging platform, especially when the economy is tight. A business case for UC might include intimidating up-front costs and potential deployment drawbacks, but balancing those costs and drawbacks against UC’s many benefits can help data center and IT managers present a proposal that encounters minimal pushback.

**Defining The Relevance**

According to Scott Kinka, CTO for Evolve IP ([www.evolveip.net](http://www.evolveip.net)), the first step in building a business case for UC is to determine what kind of investment you need to justify. This includes the definition of hard costs, such as existing system costs, costs for services that will be replaced, and maintenance and support costs, as well as costs related to the support of the solution by the IT department. All of these costs should be compared to the cost of deploying a UC system or particular UC features. However, the other side of the cost equation can be a bit trickier.

“Soft costs—productivity increases—related to UC are very difficult to quantify,” Kinka says. “While business executives will generally agree that there is some productivity uptick in deploying UC, they honestly see IT as a cost center and will generally not accept the soft-cost argument directly from them. In order to build a business case, IT managers should seek the assistance or endorsement of a business group within the company to build their own use case.”

If the business unit can identify a quantifiable UC element, such as increased revenue or decreased cost, the IT manager can

Key Points

- Determine the kind of investment that needs to be justified using both the hard costs for systems and services and soft costs around productivity increases.
- Employ the help of business units to bolster the business case with specific needs that will be addressed by a UC system.
- Revenue-generating benefits tied to unified messaging and mobility could impress business executives more than other well-known UC benefits.

use that soft-cost information in the overall analysis that’s presented to business executives. Experts also recommend defining the audience that will benefit from a UC deployment. Nick Balledda, founder and CEO of TalkPoint ([www.talkpointcommunications.com](http://www.talkpointcommunications.com)), recommends identifying the groups that need improvement in their communication, whether it be customers, investors, vendors, partners, salespeople, or employees.

“Once you have clearly defined the audience, then you can begin to address the technology issues. If the answer is ‘all of the above,’ then I suggest you prioritize in the order of immediacy and importance. If your internal ‘client’ is marketing, then they should be responsible for prioritizing the constituency and, of course, the messaging. Don’t go building a UC technology plan for the sales force only to find out later the CEO is more concerned about customer communication,” Balledda says.

Issues that are specific to a business should also be identified and used to bolster the business case. For example, Bob Hockman, vice president of product management at Empirix ([www.empirix.com](http://www.empirix.com)), says that UC can be used to reduce the cost and effort of maintaining two networks (one that supports phone calls and another that handles Internet and data traffic). Other companies might need to improve collaboration to bring products to market faster or to implement multimedia conferencing to

reduce the cost of inter-office communications, he says.

**Know The Benefits**

The benefits of UC continue to shine across deployments of every size and scope, but a targeted business case must show real value—including bottom-line value. Kinka notes that presence, messaging, and collaboration are hot topics in the UC world, but the hottest topics for business executives are unified messaging and mobility.

“Focus on productivity increases for sales and marketing—read: revenue generation,” he says. “Business executives will consider most features as nice-to-have but will understand the advantages that can be provided by providing a single number to salespeople, increasing availability on the road, and getting messaging wherever they are. It sounds a little ‘back to the future,’ but these features have real, demonstrable value outside of the cool factor.”

If the IT manager is pitching a hosted UC solution, there are even more benefits that can be implemented in the business case. Robert Wise, executive vice president of unified communications at InterCall ([www.intercall.com](http://www.intercall.com)), says that hosted UC systems allow customers to distribute the costs of equipment and management over divisions and companies, and there are also lower personnel, facilities, and networking costs. Further, business continuity can be relayed as a major benefit.

“A hosted solution can offer varying levels of redundancy and continuity, which is especially important with SMBs. That is something that would be difficult to achieve [on their own]. If you talk about redundant servers, equipment, network, backup power—all of that—you are talking about a significant investment,” Wise says.

**Don’t Overvalue**

Although there are plenty of opportunities that show UC’s value in terms of business needs and goals, it’s possible to overvalue the business benefits it can bring, Kinka explains. He recommends treading carefully when promising how UC is going to change the way the company does business, unless

the people carrying quotas or managing profit and loss statements are willing to back you up. Also, managers should know how to ease concerns around interoperability between products from multiple vendors.

“Pre-deployment test methods were designed to mitigate these problems,” Hockman says. “They dictate a methodical, layered approach that validates foundational elements—carrier to IP network—and each technology layer—IP PBX, video, chat—successively. In this way, organizations can easily detect issues and eliminate the finger-pointing that can occur with multivendor projects.”

**Respect The Budget**

Effective business cases typically contain plenty of elements designed to ease the budgetary concerns of executives. The following tips from Nick Balledda, founder and CEO of TalkPoint ([www.talkpointcommunications.com](http://www.talkpointcommunications.com)), can help to show that UC doesn’t need to be an overwhelmingly expensive option.

Use what you have. “If the company has made an investment in a videoconferencing infrastructure and has devices deployed globally, I suggest you leverage that technology investment first. Once you have defined your audience and business objectives, your starting point for leveraging the existing technology investment will be evident.”

Don’t go butterfly hunting with a bazooka. “In the world of unified communications, it’s easy to get caught up in the 3D virtual world of high-definition telepresences. Unified communications is a broad continuum ranging from simple instant messaging (IM) to full motion high-definition video conferencing. Don’t set up a telepresence meeting when a chat session would suffice.”

Use open-source technology. “Open-source technology—a.k.a. free—is available on the Internet. Use [these technologies], experiment, trial, run test cases, etc. If they work, then use them.”

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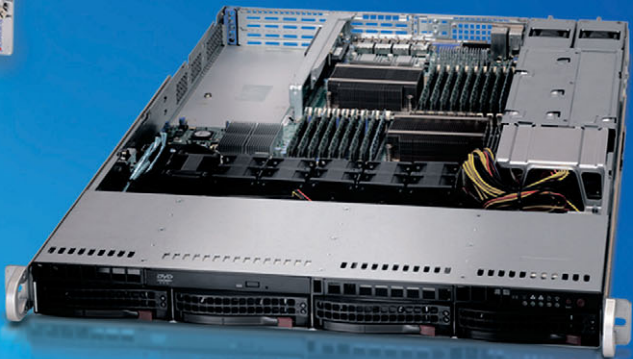
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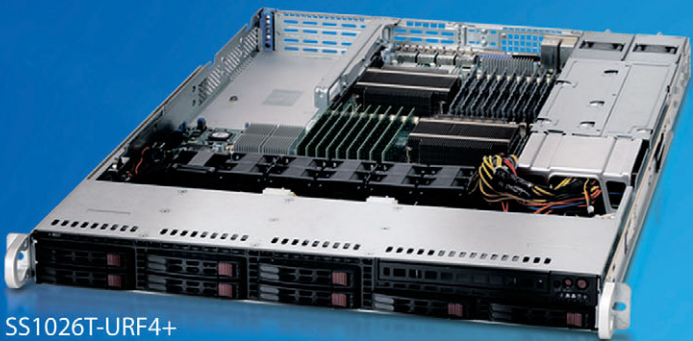
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HOW TO

# Manage Employee Departures

Protect The Business During Employee Separation

**BEFORE THE ADVENT OF IT**, it was very difficult for a departing employee to exit with sensitive company information, unless they were able to carry loads of paper files without anyone noticing. Now that information is conveniently digitized and portable, it is easier than ever for departing employees to surreptitiously carry off sensitive intellectual property. Also, if careful procedures are not followed when employees depart, administrators could inadvertently allow departing employees to walk away with access to key systems—especially employees working in IT.

Involuntary terminations further complicate the danger of information theft, because an employee that is involuntarily terminated may have an axe to grind and could be looking for ways to hurt his former employer. Even employees who voluntarily depart may be tempted to either steal intellectual property or retain access to key systems for financial gain. Fortunately, there are a variety of approaches administrators can take to ensure the separation process is thorough and complete.

### Have A Plan In Place

Managing employee departures is, at first blush, a common-sense task: When an employee departs, his access to all company systems, information, etc., is terminated. But as usual, the devil is in the details.

For example, many businesses don't have policies and procedures in place to consistently and effectively manage employee departures. A key component is establishing a response plan for handling terminated employees that can be executed at the same time the employee is going through the separation process, says Joe Fisher, president of Affinity IT Training ([www.affinity-it.com](http://www.affinity-it.com)). The plan should clearly lay out the steps required to secure assets managed by departing employees, including changing passwords for all systems and accounts the departing employee managed, such as network and data devices, operating systems, applications, etc.

Once the plan is executed and the employee has departed, it is wise to conduct a system audit and look for malicious items such as viruses, logic bombs, and back door accesses. Host-based intrusion systems can help with this task; in addition, it's also important to segregate duties so carte blanche access to critical systems is avoided, Fisher says.

Of course, he adds, the plan must be developed, contain enough detail about employees' systems access, and be able to be executed quickly by administrators.

### Retrace The Trail

When approaching employee departures from an IT and security perspective, administrators should think about the processes

developed to manage employee arrivals, says Joel Schneider, president of Liberty Technology Advisors. When new employees start, the on-boarding process includes a list of items and systems the employee receives access to, such as phones, office keys, systems access (email, accounting, customer service, etc.), and electronic entry badges.

The off-boarding process, should be the exact reverse of the on-boarding process, Schneider says. Access enabled by items such as tablets and smartphones should be terminated, and all company resources such as laptops, tablets, and smartphones should be returned to Human Resources or to the employee's immediate supervisor.

### Trust, But Verify

In today's world, highly qualified individuals may skip from company to company with ease, so it is often difficult to surmise who is

in it for the long haul and who is looking to leave. However, it is critical that administrators understand their workforce and tailor their processes accordingly.

For example, Affinity IT Training's Fisher says, whenever employers detect any hint of dissatisfaction or restlessness in an employee, the employee should immediately be placed on a monitoring list so her actions can be reviewed by supervision. Frequent—and random—auditing can help monitor employee activities and detect anomalies, even when an employee's intentions are not known.

When an actual termination occurs, employees should be allowed to retrieve personal items while escorted by security, Fisher says. If possible, an exit interview should be conducted so the employee's physical exit can be delayed while the employee departure response plan is executed, he adds. The idea is to ensure the plan is executed and all access is terminated before

### Key Points

- Employee departures, if not properly managed, can result in data/intellectual property loss and potential unauthorized access to critical systems.
- Planning policies and processes covering departure management is the best way to be consistent and protect the business.
- Coordination between access revocation and physical removal of the employee from the premises is critical to ensure a smooth transition.

the employee walks out the door. The plan must be thorough enough to ensure no stone is left unturned.

### Don't Forget About The Phones

Employers managing workforce departures must consider the ins and outs of mobile phone usage. This is an area that can be easily overlooked and cost an employer a lot of money in undetected and ongoing charges.

According to Bzur Haun, CEO of Visage Mobile ([www.visagemobile.com](http://www.visagemobile.com)), most employers don't consider the costs behind plans and features that remain active; in some cases, employers may even continue to pay for mobile phone access costs for departed employees. These situations can cost a company much more than the fees paid to support an active employee using a mobile account.

### Other Considerations

As soon as it becomes known that an employee is departing, the IT staff should be informed so that access to key systems can be shut down, says Alan Wlasuk, CEO of 403 Web Security ([403.wddinc.com](http://403.wddinc.com)). At that time, a review of all company systems the employee has access to should be conducted so that a checklist can be developed for use during the employee's final day.

On that final day, administrators must collect all company IT hardware, cancel employee access to all company systems, and change the passwords used by the employee for access. Beyond changing passwords on all email accounts used by the employee, Wlasuk also recommends briefly redirecting the employee's email to a manager so suspicious behavior can be detected promptly. Even passwords to seemingly benign Internet applications accessed by the employee, such as the company Web site, should be changed.

Any computers used by the departing employee could be potential sources of malware, such as keyloggers. These computers should be checked so the possibility of maliciously transferring information from the computer(s) to an external party can be eliminated, Wlasuk adds.

Jon-Louis Heimerl, director of strategic security for Solutionary ([www.solutionary.com](http://www.solutionary.com)), says monitoring system use for aberrant behavior is even more important than normal during layoffs. If a termination turns hostile, access must be disabled before the employee is told if at all possible. Full account revocation is the single best thing to do, he concludes. **P**

### Top Tips

- ✓ Departing employees should be treated with respect, but consistency with policies and processes that protect the business must be maintained, says Alan Wlasuk, CEO of 403 Web Security ([403.wddinc.com](http://403.wddinc.com)).
- ✓ A business should be operated on a "need to access" policy, not on freedom of information. Wlasuk says most companies do a very poor job in this area.
- ✓ Jon-Louis Heimerl, director of strategic security for Solutionary ([www.solutionary.com](http://www.solutionary.com)), says businesses should create a contract between employee and employer specifying that misuse of corporate information could result in civil penalties against the former employee if that contract is violated.



COMPANY TO WATCH



# Total Security Support

Milton Security Group Provides Security Products, Services & Support

**THE TECHNOLOGY INDUSTRY** regularly faces new security challenges that must be addressed quickly to prevent potential vulnerabilities and threats. Milton Security Group was created in order to help companies overcome their security problems and to satisfy the demand for customizable and personalized security solutions.

“After working for a number of firms and a few startups, I felt that there had to be a better way to help organizations of all sizes, not just large businesses, with securing their systems,” says James McMurry, CEO of Milton Security Group ([www.miltonsecurity.com](http://www.miltonsecurity.com)). “There cannot be a cookie-cutter approach to things like security, because it is truly unique to each organization.”

And so McMurry established Milton Security Group in May 2007 with as much of a focus on customer service as providing security solutions. In fact, with McMurry’s company, it all begins with the customer. “I started Milton Security Group with the basic principle to make systems and network security within reach of all business and to tailor the solution to each customer,” McMurry says. “Our approach is flexible and allows for a quick response to the latest threats.”

### Security Solutions For All

From the beginning, Milton Security Group has focused on providing security

products for companies in any industry and prides itself on its adaptability. According to McMurry, the company’s solutions can be tailored for “30-employee law offices to 1,000-employee government agencies and beyond.” Milton Security Group puts a special focus on SMBs, where McMurry says the company has started making inroads, to help overcome some of their inherent disadvantages. And this realization led to the creation of the company’s flagship product.

“SMBs have always had the disadvantage on the security front due to the lack of budget and expertise,” McMurry says. “We took a hard look at the problems and came up with a solution. We figured out how to shrink down the footprint of our Edge7200i and bring to the market a security appliance that isn’t just affordable, but provides the same level of enterprise security.”

The Edge7200i is a NAC appliance that is designed to control access to wired and wireless networks using identity-based security measures. It also lets you monitor every client on the network as well as the Edge7200i’s system components. The other

products in the Edge series of solutions are the EdgeSMB, EdgeUtility, and EdgeOFIS. The EdgeSMB also uses identity-based network access, but it is designed specifically for smaller businesses. The EdgeUtility is specially designed for utility-based

provides 24/7 customer support, compliance support and education for multiple industries, and much more.

### An Eye On The Present & Future

Milton Security Group is currently growing its Informer Series of products, which McMurry says is designed to help gather and process as much data as possible from critical sources and provide increased visibility of events on a company’s network. The Informer series includes the Virtual Operations Center for better network visibility, as well as MSGInformer, which works with the Edge7200i to monitor your networks in real-time.

In addition to current projects, the company is also looking toward the future at issues such as virtualization and cloud security, and how it can help support the security needs of customers using versatile solutions. This includes adapting the company’s existing products to support industry-wide changes as well as supporting the influx of mobile devices in the workplace.

“Our products are unique, and our Edge security appliances allow IT and security teams the granularity and control over their users’ end node systems, from the company-owned laptop to the newest tablets and smartphones,” McMurry says.



**Company Name:**  
Milton Security Group  
**Location:** Fullerton, Calif.  
**Contact Info:** (888) 674-9001 | [www.miltonsecurity.com](http://www.miltonsecurity.com)  
**Date Company Founded:** 2007  
**Interesting Fact:** More than 30% of the company's employees are either currently serving in the reserves or are veterans.

companies and helps with compliance. The EdgeOFIS, according to McMurry, is “great for small organizations that have extremely limited budgets” and serves as a solid starting point for addressing security.

In addition to Milton Security Group’s products and solutions, it also provides support and services for companies long after they purchase a product. The company



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# Assess Your Security Risk

Make Sure Your SME Is Protected By First Determining Risk Levels

EVERY SMALL TO MIDSIZED enterprise has security risks at some level, but those risks can vary greatly depending on the business and the market that’s served. How can an SME determine threat levels and make sure that technology and data are protected? Here are some insights on how to assess security risk.

### Know What To Protect

When looking at risk, it’s crucial to understand what the enterprise needs to protect, according to Courtlend Little, service and solutions architect at Solutionary ([www.solutionary.com](http://www.solutionary.com)), a managed security service provider.

“Knowing what you want to protect drives the risk assessment process. It determines what kind of risk analysis is most appropriate,” he says. “If companies don’t have a defined goal in terms of protection, they’re more likely to waste money.”

Some companies try to protect all data and all equipment from every type of security threat—insider, hacker, and physical—but that strategy can lead to overpurchasing, Little believes. Instead, enterprises should assess risks based on what needs to be protected in terms of regulatory compliance, data storage, and business continuity.

Compliance will be a major factor in risk assessment, Little adds. For example, if a company has HIPAA obligations, that will determine its level of risk and what type of compliance framework needs to be in place.

### Risk According To Business Type

Some enterprises will be vulnerable when it comes to physical security if they don’t have anything in place and run a fairly accessible data center. But for others, such as an e-commerce firm, risk analysis will likely focus on threats outside the firewall.

Little notes that for many SMEs, an important step in risk assessment comes with understanding which specific type of threats are relevant to the company. For instance, all companies should be looking at protection at the application level, he believes, but it’s not always necessary to implement high-level physical protections such as biometrics if an enterprise already has strong physical controls.

### Employ Threat Modeling

One of the most effective steps in understanding real-world risk is to see the organization from an attacker’s perspective, notes Nicholas Arvanitis, principal security consultant for Dimension Data

([www.dimensiondata.com](http://www.dimensiondata.com)). This process, called threat modeling, is better understood when applied to assessing software but can also be used in data centers. The approach was developed specifically to assess software security, Arvanitis says, but it’s equally applicable in evaluating an entire organization or smaller subsets of IT systems.

He states that at a very high level, threat modeling entails mapping out the aspects of a system or an organization, listing the assets of that organization that attackers might be interested in, documenting all of the interfaces, enumerating the profiles of various users and attackers, detailing the various threat vectors or agents, and then combining these into attack graphs (sometimes called attack trees), that depict compromise or attack scenarios.

For example, one could consider a Web-based application where the asset is credit card data or other protected or sensitive data. The interface in this case is via the Web application itself and includes various inputs

### Key Points

- Understand what needs to be protected; not all data and equipment is necessarily in the security mix.
- Do risk assessment based on your type of business; compliance can play a part in determining vulnerabilities and choosing appropriate levels of protection.
- Employ threat modeling to see where vulnerabilities might be in the data center and at the application level.

pressing risks, and what the risks actually are, Arvanitis believes. He notes that there have been extensive compromises this year alone, with targets ranging from small organizations, large corporations, government contractors, and even security companies.

“The key here is to realistically and objectively assess the exposed scope of the organization, the goals for potential attackers, and the potential security implications at each stage.”

- Dimension Data’s Nicholas Arvanitis

## Bring In A Hacker

As part of the risk assessment process, it can be helpful to hire someone who can see the enterprise with an “evil mindset,” notes Nicholas Arvanitis, principal security consultant for Dimension Data ([www.dimensiondata.com](http://www.dimensiondata.com)). A security consultant, brought in at regular intervals, can help an enterprise see risks from this perspective. In addition, an SME can provide deeper security training for staff members.

“Only through critical self-assessment, grounded in the reality of how attacks today are perpetrated, can an organization begin to understand the real risks faced,” Arvanitis says. It then becomes critical to validate these scenarios and assumptions through some type of active security assessment and penetration testing, he adds.

“However, a common mistake is to conduct generic, unfocused penetration testing without the context provided by a threat model and assume that one is safe through this process,” he says.

to the application, such as fields into which a user enters data. The attacker might employ a threat vector such as SQL (Structured Query Language) injection. Part of the threat modeling process is to graph this scenario into an attack tree and evaluate whether any mitigating steps have been taken at each phase of the attack flow to limit the risk.

“The key here is to realistically and objectively assess the exposed scope of the organization, the goals for potential attackers, and the potential security implications at each stage,” says Arvanitis.

### See The Mismatch

In general, there’s a mismatch between what organizations believe to be the most

“In each case, the level of compromise achieved must lead one to believe that a poor or flawed assessment of risk resulted in the gaps in security posture exploited in these attacks,” he says.

No organization is free from risk, Arvanitis adds. Smaller organizations face the issue of more limited resources with which to try and assess risk. However, no enterprise can hope to accurately assess risk without going through the process of understanding how an attacker sees the organization and works to compromise their systems.

Arvanitis says, “Checklists and compliance do not equate to real security. If they did, we would not be in the state that we are today.”

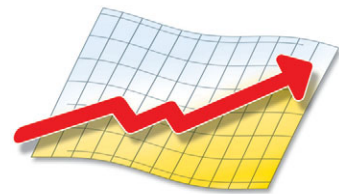
### Oracle/Google Trial Date Pushed To 2012

The judge overseeing the lawsuit between Oracle and Google ruled that the trial will not begin until next year because of scheduling conflicts with another trial. The suit began last year when Oracle sued Google, claiming that Google’s Android software violates several patents related to Oracle’s Java programming language. The judge said once the trial begins, it will be heard in three stages by the same jury. The first stage will focus on liability related to copyright claims, the second on liability related to patent claims, and the third

on damages. The trial had been scheduled to begin on Oct. 31.

### AMD Reports Third-Quarter Profit

Strong mobile processor sales and demand from emerging markets helped AMD report better-than-expected quarterly results, despite manufacturing problems with its new Llano chips. The



company posted a net profit of \$97 million for the third quarter, compared to a loss of \$118 million in the same quarter last year. Revenue rose 4% year over year to \$1.69 billion. The company’s mobile processor shipments have grown more than 50% in the last two quarters, AMD says. Emerging markets in China and India also helped drive sales during the quarter, a trend that AMD expects to continue. AMD forecasts fourth-quarter revenue growth of about 3%.

### Motorola Mobility To Fire 800

Motorola announced in a third-quarter SEC filing that it will lay off

800 Motorola Mobility employees as it prepares for a merger with Google. The layoffs, which Motorola says will cut costs, will happen by the end of the year. The employees who will lose their jobs work in Motorola’s mobile device business and its home business. The layoffs will cost Motorola about \$27 million in severance pay and \$4 million to shut down facilities where the employees worked. The companies expect the \$12.5 billion merger to be completed this year or early next year, pending shareholder and regulatory approval.

### Yahoo! May Spark Bidding War

Google and Microsoft may be preparing bids to acquire Yahoo!. The *Wall Street Journal* reported that Google has met with at least two private equity firms to help them finance an acquisition of Yahoo!. Microsoft is also said to be considering a bid, along with other private equity firms and the Chinese search company Alibaba. However, Yahoo! may be considering selling its Asian assets and redistributing those proceeds to shareholders rather than put itself up for sale. Microsoft made a \$44.6 billion offer for Yahoo! in 2008, but talks collapsed when Yahoo! declined the bid.

BUYING GUIDE



BUYING TIPS:  
Data Backup

**BECAUSE DATA REPRESENTS**, at its essence, the heart of any company, acquiring the right data backup hardware, software, and services is crucial to a business' success. Here are some issues to consider when you're in the market for a data backup solution.

**Take a strategic view.** To get started, enterprises need to take a strategic view when selecting a new backup product, says Rajeev Atluri, CTO of InMage (www.inmage.com). Is your enterprise looking to eliminate backup windows? Maximize application availability? Minimize data loss? Lower management burdens? Knowing the answers to those questions can help you make the best decision, Atluri says.

One big mistake, he says, is that enterprises too often take a short-term perspective and invest in workarounds that have to be replaced in a year or two.

**Cost.** When making a capital purchase, you need to ensure that the products will meet your current needs as well as your future ones. For example, Ben Ginster, channel marketing manager for Idealstor (www.idealstor.com), suggests that you should be able to simply purchase higher-capacity disks when your business grows instead of having to completely revamp your storage infrastructure. If you're considering using a cloud

vendor, look for flexibility and expandability in their program offerings and bear in mind the costs associated with scaling up.

Additionally, look for technologies that result in reduced costs, such as data reduction, which limits redundant data and helps SMEs avoid paying for extra storage capacity they don't need.

**Shopping for a vendor.** Because you're effectively trusting a vendor with your company's sensitive and mission-critical data, security and trust are paramount. Hardware must have a reputation for reliability, and software needs to be as free from vulnerabilities as possible to avoid exploits by cybercriminals and costly crashes. The companies that sell those products need to be able to quickly and completely respond to any issues that arise, too.

**Ease of use.** If your data backup solution requires a system administrator or an individual with a high degree of network expertise to perform tasks that could be automated, simplified, or performed by an employee with less experience, you'll be wasting money and the time of an employee who could be doing other more expertise-appropriate tasks.

Jeff Rector, director of marketing at Quantum (www.quantum.com), suggests looking for solutions with setup wizards and other administrative software that the average user can install, configure, and use to troubleshoot. Also, be sure that you're

Buyers' Checklist

- ✓ **Reasonable cost.** You should be able to comfortably absorb the cost of products or services, including the costs associated with growth.
- ✓ **Speed.** Access to your data backup should be as fast as possible.
- ✓ **Support.** If you have an issue with a product or service, make sure you have support with high availability and expertise.
- ✓ **RTO (recovery time objective) and RPO (recovery point objective).** Be sure you can recover from a problem as quickly as possible while losing as little data as possible.

Key Terms

**SAS 70 type II certification.** An industry standard that is awarded to vendors or service providers that adhere to certain criteria to ensure security and control.

**Service-level agreement.** An SLA is a document that defines the terms of service between a customer and a service provider.

able to access your archives quickly, that a technology or vendor offers backward compatibility, and that speed is optimized.

**Technical support.** Everything breaks eventually, and when it's your data backup solution, you need to fix the issue and get back online as soon as possible. Look for a vendor with 24/7 customer support; a high level of technical expertise from support personnel is a must.

**Watch for the next generation.** InMage's Atluri says that enterprises need to be sure to consider next-generation solutions that offer both backup and disaster recovery in a single product. Realize that a phased approach is possible when adopting such a solution, he says, and that investment in training and focused product adoption can help ensure your enterprise realizes the full benefits of the product. [P]

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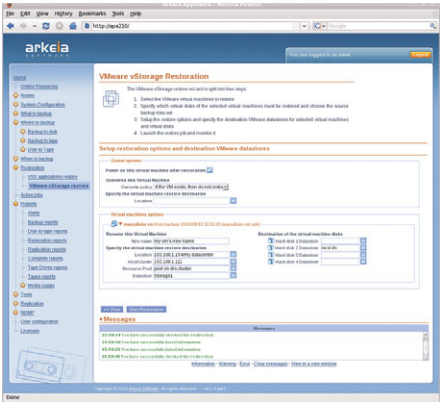


PRODUCT SPOTLIGHT

# Data Backup & Disaster Recovery

Product

## Arkeia vStorage Virtual Appliance



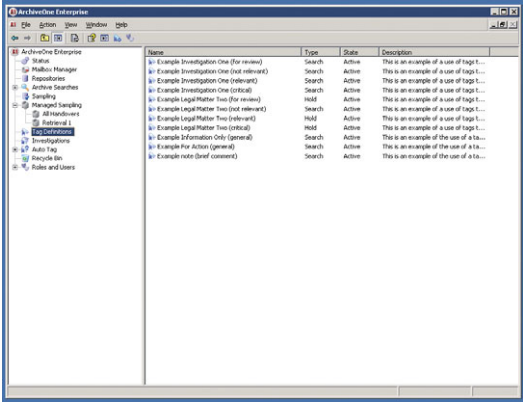
Description

Arkeia's vStorage Virtual Appliance is a comprehensive backup and recovery tool for VMware vSphere 4 platforms and VMware Infrastructure 3. The virtual appliance includes Arkeia vStorage Backup Agent and can be rapidly deployed in and be used to back up any vSphere hypervisor. Arkeia vStorage Backup Agent enables local and over-the-network backups to disk, tape, or to disk and then tape, and backup sets can be replicated locally or over a WAN.

- Management through Arkeia's Web-based interface
- VMware CBT (Changed Block Training)
- vCenter integration, vApp support, and RDM (Raw Device Mapping)
- Enables full, incremental, and differential backups
- Includes one year of maintenance

**Best For:** VMware vSphere environments.

## C2C ArchiveOne Enterprise

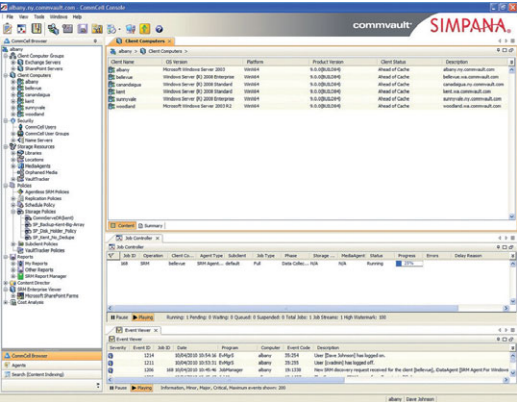


C2C's ArchiveOne Enterprise is designed to give Exchange administrators a simple yet sophisticated tool to improve the health of the email system and deliver greater efficiency of storage and unrivalled power to both live and archived data. ArchiveOne Enterprise is designed to remove all unwanted email and other data items from live Exchange servers, enforce corporate e-policies, and search email with an unlimited scope. ArchiveOne Enterprise can be installed in about one hour, with little training needed.

- Fully automated mailbox quota management
- Advanced PST discovery and management
- Extensive retention period controls
- E-discovery for performing forensic searches

**Best For:** Situations requiring sophisticated archiving, retention, e-discovery, and compliance with an easy learning curve for users.

## CommVault Simpana 9



CommVault Simpana 9 eliminates the need for a myriad of disparate point-level products; reduces costs; and is inherently flexible, efficient, scalable, and adaptable. The tool offers modern data management with a tightly integrated blend of snapshot management, replication, and persistent copies designed to be secure, deduplicated, managed, and accessible through a single, unified platform. Simpana 9 can quickly create copies that are highly available by integrating and leveraging hardware array-based snapshot technologies and can move data efficiently to disk, tape, or cloud storage. Data can be easily recovered for disaster recovery, data mining, e-discovery, or compliance.

- Massive virtualization performance and scalability
- Efficient data deduplication for improved network transfer while cutting the backup window in half
- Simplified licensing, administration, and management
- Enhanced migration capabilities and services

**Best For:** Companies that require significant control over data with optimal protection in a variety of storage environments.

Product

## Quantum DXi4500



Description

Quantum's DXi4500 appliances are turnkey solutions that can be deployed seamlessly with all leading backup software using a simple NAS interface. They are designed for rapid, seamless integration and maximum client performance without changes to existing backup architectures or potentially disruptive media server upgrades, unlike software-based deduplication. Each DXi4500 model includes support for remote replication, virtual environments, and Symantec's OpenStorage interface as standard features.

- Data deduplication in an easily shared NAS device
- Two preconfigured models with 2TB or 4TB usable capacity
- Reduces typical disk capacity needs by 90% or more through deduplication

**Best For:** SMEs and branch offices in distributed sites that are seeking an affordable disaster recovery solution.

## Quantum Scalar i40/i80



Quantum's Scalar i40 and i80 are intelligent tape libraries for small and medium-sized businesses and remote office environments of larger enterprises that are looking to save time and money spent on storage management. With embedded iLayer technology, the i40 and i80 provide users with simpler tape management, fewer service calls, and market-leading investment protection through capacity-on-demand scalability.

- Simplifies tasks, including initial setup, ongoing management, and adding capacity over time
- Reduces library management time by 50%
- The i40 scales from 25 to 40 slots, and the i80 scales from 50 to 80 slots with a software license

**Best For:** SMEs and remote office environments.

## Spectra Logic Midrange T-Series Tape Libraries



The Spectra Logic T-series of tape libraries include the Spectra T200, T380, and T680, which are designed with scalability in mind. Built on the company's Transcale architecture, the tape libraries feature interchangeable components that make scaling up easier. With up to 2PB of storage capacity, the tape libraries also feature free encryption key management; media, drive, and library health monitoring; and partitioning and remote management.

- Management via Web browser for easy operation
- Built-in BlueScale AES 256-bit encryption and key management
- Monitors its own drives, power supplies, controller, and robotics
- Media Lifecycle Management and Certified Media tools detect media errors before they happen

**Best For:** Midrange data centers.

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

DataRecovery.com



DataRecovery.com's services are designed to be both affordable and fast, with a range of data recovery options available for every budget and every data loss situation. DataRecovery.com can recover data from everything from a single hard drive to a RAID storage array. The company has developed a strong reputation worldwide during its 12-year history, with a division focused on RAID, SAN, and NAS storage that is frequently used by Fortune 500 companies.

- No data, no-charge guarantee
- Supports every data storage medium, including tapes and servers
- 24/7 and onsite services for critical situations
- Different pricing and turnaround levels available

**Best For:** Enterprises needing data recovered from virtually any failed system.

**Pricing:** Starts at \$500 for single drive recovery

Idealstor Bantam

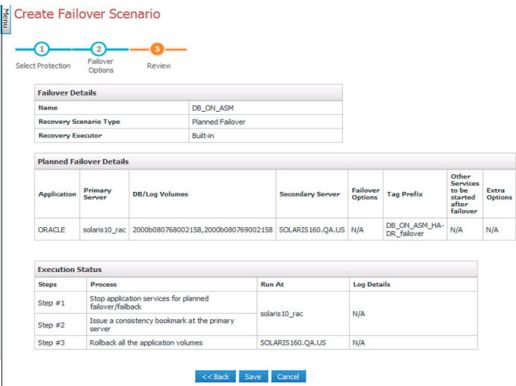


The Idealstor Bantam is a removable disk backup system that combines the best of disk and tape by using 2.5-inch SATA disks as backup media, which can then be sent offsite for storage and disaster recovery. The Bantam is priced for SME budgets but has features that meet the needs of larger enterprises, as well. The system features data transfer rates of up to 480MBps and is bundled with iBac Data Protection Software from Idealstor.

- Complete backup system offering up to 1TB of removable disk capacity
- Disk capacities of 320GB, 500GB, 750GB, and 1TB currently available
- Includes iBac 5.0 for native format backup and drag-and-drop restore with data deduplication
- Bantam cartridges are housed in a rugged aluminum frame and are shock-proofed

**Best For:** Replacing tape backup with a faster, larger, and more reliable backup media.

InMage scout 6.0



InMage scout leverages the advantages of disk-based data protection to provide enterprises with application-aware recovery. InMage scout captures data changes in real time, performing local backup or remote replication. Version 6.0 provides support for all major enterprise platforms, can work across complex heterogeneous storage, and supports both synchronous and asynchronous protection so enterprises can choose the level of protection that's best.

- Elimination of backup windows (data is backed up to disk real-time 24/7)
- Supports both Fibre Channel- and IP-based transports
- Doesn't require storage virtualization or pass-through configurations
- Zero and near-zero data loss protection support
- Supports Windows, Linux, VMware, Solaris, AIX, Hyper-V, and XenServer

**Best For:** Enterprises in need of a single product to manage complex storage environments.

STORServer Backup Appliance



The STORServer Backup Appliance integrates backup, archive and disaster recovery into a single, integrated solution that includes industry-leading hardware, intuitive backup software and robust data protection technology. Appliances are scalable, enterprise-wide solutions that support many OS, email and database platforms, various network connections (NAS, SAN, LAN, WAN), and hundreds of storage devices. With STORServer's online browsing tool, Instant Quote, IT managers and administrators can quickly and easily evaluate pricing, components and standard features of three STORServer Backup Appliances.

- Centralized management
- Support for most OS, email and database platforms
- Disk-to-disk OR disk-to-tape
- NAS, SAN, LAN, WAN friendly
- Quick to install and easy to learn and use
- Virtual Machine Backup agent option

**Best For:** Midmarket organizations in need of an enterprise-class solution that can be managed in just minutes a day.

TOLIS Group bruAPP



The bruAPP™ backup appliance resolves the issues of configuration, installation, and compatibility faced when implementing a networked system backup strategy. Proven reliability, cost-effectiveness, scalability, and client system software agents available for all modern operating systems are delivered without the requirement for heavily experienced system/network administrative personnel. Tightly integrated hardware components, and the venerable BRU™ software, provide backup and restore services independent of any server on the network. 1U to 7U models are available to provide D2T, D2D, and D2D2T operations; up to 28TB of net RAID disk stage capacity (RAID 5 + hot spare); and internal tape technology up to eight drives and 96 slots.

- Enterprise-grade client/server backup services
- Windows, Linux, and Mac OS X management consoles
- Plug-and-play installation and intuitive operation
- Totally self-contained using server-grade components

**Best For:** Enterprises in need of a complete backup and restore appliance.

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# Can The Cloud Save You Money?

## Benefit Your Bottom Line With Reduced Energy & Support Costs

*NEAR THE TOP OF MOST LISTS* of cloud computing's benefits is that it will save companies money over operating traditional in-house data centers by using a combination of virtualization, economies of scale, pay-only-for-what-you-use pricing, and so on.

Here are a few ways to use the cloud to reduce costs for your enterprise, although they may not apply to building your own private cloud. "It's in the public space where there are immediate money-saving opportunities," says Leigh Haig, an independent IT consultant.

### What Will Deliver The Quickest Savings?

Mike Alley, director of managed services solutions at Logicalis ([www.logicalis.com](http://www.logicalis.com)), suggests starting out with production environments. With the right cloud provider, you can get a degree of "full

monitoring, incident remediation, and patching that a lot of small and medium-sized enterprises don't have the ability to invest in." The result is higher uptime, faster repair times, and lower risk of negative impacts to the business.

If you'd rather start smaller, Haig suggests messaging, including message hosting and email security. "It's an offering that most corporations run in a pretty standard form, and due to the length of time messaging cloud offerings have existed, it makes it a somewhat reliable and safe first shift," Haig says.

### Cautionary Tip: Make Sure The Cloud Doesn't Cost You Extra Money

With the hype over the cloud's money-saving potential, it's possible to overlook the ways in which it could end up busting your revised budget. The risk factors include software and computing resources that your company accesses via a pay-per-usage agreement.

Thus, you may need to use company directory services to prevent workers from using cloud applications they don't need for their jobs. Also, Mike Alley, director of managed services solutions at Logicalis ([www.logicalis.com](http://www.logicalis.com)), recommends establishing a workflow that tightly controls the approvals for expanding compute capacity and prevents unauthorized personnel from provisioning spin-ups on their own.



### Make Storage Even Cheaper

The greater your data volume and the more active it is, the greater the chances are that it will be cheaper in the cloud.

Even with hard drive prices running pennies per gigabyte, cloud computing can make storage competitive through economies of scale and volume discounts from hardware vendors, as well as savings on support costs. "If you need to train and retain a quantity of staff to be available to support your IT environment at any given time, you potentially have expertise available when not required," Haig says.

Furthermore, Alley says, "If it goes beyond storage, and it's more of an enterprise resource where that storage is backed up, then definitely I see a cost savings," because cloud storage eliminates the need to buy and run your own backup software.

### Shift Productivity Apps To SaaS

According to Alley, this is much less expensive than buying software off the shelf

and licensing it to one employee at a time. Also, because applications are hosted in a managed environment, you're spared the bother of updates, and any cost for software maintenance contracts will be spread across multiple clients, rather than your business bearing the full brunt.

### Let Your Provider Assist With Regulatory Compliance

A provider that's earned SSAE 16 (formerly SAS 70) certification or better can spare you the full expense of maintaining an in-house environment to the same standards. It can also provide its yearly audit reports to bolster your own compliance reporting.

"If the cloud provider is specifically complying [with] certain regulatory requirements, it's likely they'll retain expertise in the associated regulations," Haig says. "This may decrease the need for technical knowledge of the regulations to be retained on staff."

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BUYING GUIDE



BUYING TIPS:  
Data Center Furniture

**IF ONLY BUYING** data center furniture were as easy as walking into a store, pointing at various items, and declaring, “I’ll have that, that, and that.” But, alas, things are a bit more complicated. The following advice from several experts will help ease the task.

**Form and function.** Before buying furniture, do some planning first, says Rackmount Solutions Account Manager Susan Wynne ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)). “Know the function of the room. Have in mind a design or layout of the space you’re wanting to create. A sketch or draft of the room with the various components in place is helpful,” she says. Additionally, know the dimensions of the space and furniture to ensure you meet requirements. Also helpful is knowing how a workstation will be used and by how many people to ensure overall comfort.

For companies with multiple users plying away over 24-hour shifts, “height adjustability/maneuverability is a must,” says Jennifer Monroe, president of Office Organix ([www.officeorganix.com](http://www.officeorganix.com)). Beyond helping avoid static seated postures and fatigue from sitting, she says, “it’s

common knowledge that multiple postures over the workday lower the risk of injury on the job. Most high-end electrically adjustable IT furniture manufacturers offer an excellent warranty on the motor or moving parts, too, so the concern about breakdown or repair is minimal.”

**Weighty issues.** Other considerations to keep in mind include built-in grommet cable management and power-port features to manage connections and wiring, Monroe says, as well as warranty stipulations and weight specifications/limitations. “Some ‘fine print’ often says that overall a unit may accommodate a total of 1,000 pounds, but if you read closely, per-shelf weights are quite different,” Monroe says, so “avoid overloading and nullifying the warranty.”

Kristen Speranza-Diamond, vice president of Hergo ([www.hergo.com](http://www.hergo.com)), says that it’s important to stay up-to-date with changing technologies. “All of the equipment and LCDs are becoming much less expensive, so everyone is upgrading and making the transition to go compact,” she says. Thus, flat-panel arms are more important than ever in terms of addressing space efficiency

Buyers’ Checklist

- ✓ **Seek out quality.** Although looking for deals can help companies on a tight budget, sacrificing quality as a result can end up costing companies more in the long term, especially if buying from vendors that don’t offer lifetime warranties on furniture.
- ✓ **Know the delivery terms.** Before buying furniture, determine if the delivery includes bringing it inside the facility, requires a lift gate or loading dock, and includes assembly or puts the responsibility on you or a third-party installer.
- ✓ **Go modular when possible.** Buying components that are interchangeable lets you modify the setup to meet changing needs, including downsizing or expanding space. Increasingly, individual furniture units can be mixed and matched and layout configurations easily altered.
- ✓ **Build vertically.** Purchasing components that support building vertically promotes space efficiency.

Key Terms

- Adjustable height.** Refers to components users can raise or lower for a better individual fit. Some higher-end furniture can be adjusted electronically.
- Cable management.** Built-in grommets, channels, or other features to manage cables and wiring.
- Modular.** Furniture components that are interchangeable or can be easily modified.
- Recessed.** Platforms that sit lower than the tabletop itself, sometimes at an angle, to allow for easier viewing of monitors.

and ergonomics. “With the economy still in a precarious state, office and lab space is at a premium, and it’s beneficial to go vertical and make the best use of square footage,” she says.

**Know the maker.** Doing your due diligence to find a trustworthy, reliable vendor is important, says Eli Hertz, Hergo CEO

and president. “You want a vendor that you can invest in for the future. You don’t want to deal with a company that will only be around for a one-time purchase.” Similarly, search for a vendor that can offer a complete solution, says Speranza-Diamond, so you’re not in a position of having to go to multiple vendors to complete a project. **P**

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PRODUCT SPOTLIGHT

# Data Center Furniture

Product

Description

## Data Center Depot Hercules LAN Station




The Hercules LAN Station has an industrial-strength, super heavy-duty four-post frame and measures 84 x 72 x 36 inches. It's easy to assemble and has a 72- x 36-inch work surface, two upper shelves (72 x 24 inches), two steel legs with levelers, and three horizontal back panels.

- Shelves can hold up to 800 pounds and are adjustable in 1-inch increments
- Legs are made of 14-gauge tube steel
- Shelves are steel-reinforced and have high-density laminate
- 72-inch-high frame available for the same price as the 84-inch model
- Available in a variety of sizes
- Lifetime guarantee

**Best For:** Data centers in need of an easy-to-assemble, industrial-strength LAN station.

**Price:** Starts at \$1,020

## Data Center Depot Samson LAN Station




The Samson LAN Station features a super heavy-duty cantilever frame and measures 84 x 48 x 36 inches. The work surface measures 48 x 36 inches, and the two upper shelves measure 48 x 24 inches. The Samson comes with two horizontal back panels.

- Shelves can hold up to 450 pounds and are adjustable in 1-inch increments
- Legs are made of 14-gauge tube steel
- 72-inch-high frame available for the same price as the 84-inch model
- Lifetime guarantee
- Free consultation
- Available in a variety of sizes
- Optional accessories, including mobile server cart and pull-out keyboard shelves, are available

**Best For:** Data centers in need of a super heavy-duty LAN station that is easy to adjust or expand.

**Price:** Starts at \$966

## Hergo Commando2 Console



Hergo's double island top Command Center is a modular, low-profile multi-monitor workstation for the modern-day jack-of-all-trades operator.

- Four base frames - 42 x 30 inches (H x W)
- Two high-pressure laminated island desktops - 30 x 72 inches (W x L)
- Four track-mounted flat panel extension arms
- Side enclosure and modesty back panels
- Slide-out CPU shelf
- Under desk 19-inch relay rack

**Best For:** Command centers, call center and network operations where a multitasker can rise to the challenge and tackle daily hurdles in an attractive, efficient, and functional workspace.


**Price:** Starts at \$5,899 (all items included as pictured)

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

Product

Description

## Rackmount Solutions Heavy Duty LAN Rack/Computer Station



The Heavy Duty LAN Rack/Computer Station from Rackmount Solutions is designed for heavier equipment loads, with each shelf supporting more than 850 pounds. All shelves are adjustable in 1-inch increments and may be placed anywhere on the frame. This workstation features a high-quality tube steel frame and unlimited variations when combining different LAN station widths, plus corner stations.


- Fully welded four-post frame with 2-square-inch, 14-gauge steel virtually eliminates vibration
- 14-gauge steel horizontal back panels for maximum strength and stability
- Available in 36-, 48-, 60-, and 72-inch widths; 84 inches high
- 1.25-inch-thick work surfaces support more than 850 pounds each
- LAN rack ships fully enclosed in a shipping crate to protect from damage

**Best For:** Anyone who needs shelving that can support heavy loads or flexible configurations.

**Price:** Starts at \$1,154

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

## Rackmount Solutions Recessed Monitor Corporate Training Tables



Rackmount Solutions heavy-duty Recessed Monitor Corporate Training Tables allow plenty of surface space for manuals and workbooks while giving users lines of sight to the moderator and any video instructions being displayed in the front of the room. These tables are customizable with a variety of LCD mounts and keyboard trays.


- Choose from stock 36-, 48-, 60-, or 72-inch widths or a custom configuration
- Dropped monitor platform is on a 22% angle, 4 inches in front and 7 inches in back, for clear view of instructor
- 14-gauge steel legs and a 1.25-inch-thick laminated table surface make these units almost indestructible
- Table adjusts from 26 to 32 inches high to accommodate various employee heights
- Includes out-of-sight cable management under the table surface

**Best For:** Corporate training areas that require versatile, highly durable tables that must cater to multiple users and frequent ergonomic adjustments.

**Price:** Starts at \$308

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

## Rackmount Solutions Bravo Power Corporate Training Tables



Bravo Power Corporate Training Tables from Rackmount Solutions make it easy to connect your monitor, an Internet connection, and additional peripherals to Rackmount heavy-duty corporate training room tables by using a recessed, pop-up, or under-table power source. These tables are customizable with a variety of LCD mounts and keyboard trays and are ideal for environments where a power source on the table enhances usability and convenience.

- Choose from stock 36-, 48-, 60-, or 72-inch widths or create a custom configuration
- Common power modules used are two CAT 6 RJ-45 and two 15A/125V receptacles with circuit breaker, but modules can be interchanged to fit your needs
- Heavy-duty 14-gauge steel legs and a 1.25-inch-thick laminated table surface make these units almost indestructible
- Superior strength with support for up to 900 pounds

**Best For:** Corporate training areas that require versatile, highly durable tables with the convenience of power built in.

**Price:** Starts at \$439

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Hergo Large Screen Multi-Media Cart



- Hergo's large screen open frame cart features a Universal Tilt Plasma LCD Mount to accommodate units from 37" to 60".
- 72- x 36-inch (HxW) frame assembly
  - 26-inch legs with heavy-duty casters
  - 12-inch utility shelf to hold remote controls, DVDs, or product manuals
  - 36-inch horizontal cable raceway
  - Quality powder coat finish – environmentally friendly
  - Options include power management, rackmount attachment brackets, and keyboard/mouse assembly

**Best For:** Customers needing a sturdy, all-in-one solution for presentation and AV equipment. Ideal settings include conference rooms, studios, classrooms, and libraries.

**Price:** Starts at \$725

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

Hergo Personal Workstation



- The Hergo Personal Workstation is a fully modular right- or left-hand user solution. Designed for a single- or dual-monitor setup, this high-profile system provides maximum vertical mounting space for overhead storage and suspended or track-mounted flat-panel screen management.
- Double 11 GA metal-slotted frame unit measuring 84 x 60 inches (HxW)
  - 72- x 30-inch (WxD) laminated desktop with left or right return (18-inch deep); also available in 60- x 30-inch configurations
  - Monitor track shelf with LCD suspension system
  - 18.5-inch-deep mounting shelves with upward or downward brackets
  - 30-inch-wide metal-locking storage compartment with laminated, hinged flip-up door
  - Power and cable management options

**Best For:** Multitaskers who require additional work surface and storage space.

**Price:** 84- x 60-inch unit with 72-inch L desktop is \$2,745 with monitor suspension, file cabinet, and side panels, or \$2,195 for track-mounted LCD and no file cabinet or side panels.

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

Hergo Technical WorkBench



- Hergo's Technical WorkBench has the quality and durability of an industrial rack with a sleek, cutting-edge modern presentation.
- Three 11 GA Metal Base Frames – 84 x 24 inches (HxW)
  - High-pressure laminated desktop – 72 x 36 inches (WxD; ESD top also available)
  - Two telescopic support uprights
  - Three vertical cable management raceways – 60 inches (length)
  - Six gliders
  - Quality powder coat finish – environmentally friendly
  - Options include shelving, power management; overhead light assembly; tool trolley; dry erase, cork, or peg board; storage bins; keyboard tray

**Best For:** Laboratory, industrial, or technical environments where a user needs an open work surface to assemble or repair equipment.

**Price:** Starts at \$1,595 (Base Unit), \$1,715 (Base Unit with ESD Desktop)

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

Uptime4u Anthro Elevate Electric Lift Corner Dispatch Console



- The Anthro Elevate Electric Lift Corner Dispatch Console available from Uptime4u utilizes the space-saving design of a corner console combined with the ergonomic benefit of an electric-lift adjustable-height unit. Six or more flat-panel monitors can be fully utilized while keeping everything within easy reach of the user. Network cables are efficiently routed to prevent work surface clutter.
- Fits true to corner and utilizes every inch of wall space
  - Console height adjusts quickly and quietly at 1.5 inches per second
  - Maximum flexibility with keyboard/mouse platform that swivels, tilts, and moves in and out and up and down
  - Sturdy steel legs are mounted solidly to base and frame

**Best For:** Data centers, control rooms, computer rooms, and dispatch and 911 centers where users need ergonomic adjustability and modular design in a heavy-use environment.

**Price:** Starts at \$3,500

Uptime4u EDP Contour Advance Data Center Console



- The EDP Contour Advance Data Center Console available from Uptime4u offers easy adjustment of sit/stand features at the press of a button. Ergonomic design combines with durable construction, flexibility, and well-planned wire management in this console solution. Numerous configurations are available for your specific needs, including single, double, and team workstations. This console is engineered to withstand frequent usage and to meet public safety sector standards.
- All-steel frame construction offers long-term resilience, even in 24/7, multishift environments
  - Independent height adjustments for keyboard and monitor deck
  - Accommodates a range of accessories, including display arms, whiteboard inserts, and acoustical fabric wraps
  - Secure storage of dedicated CPU modules either beneath the work surface or in a matching enclosure

**Best For:** Demanding call center and public safety environments that must be up and running 24/7.

**Price:** Starts at \$8,000

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# Airflow Management: Back To Basics

Lower Data Center Operating Costs By Focusing On The Fundamentals

THESE DAYS, most data center managers understand that controlling airflow offers big benefits. The goal is to prevent the air in the hot aisles from mixing with the air in the cold aisles, which in turn helps reduce the amount of bypass airflow—the cooled air that returns to your air conditioning units without doing the work of cooling down your IT equipment.

Why is that important? With better airflow management, you may be able to turn off one or more of your CRAC (computer room air conditioning) units. In addition, better managing the airflow also helps to eliminate hot spots in the room, which can improve hardware performance and helps prevent voiding your manufacturer warranties. These projects can also help companies defer capital expenditures by increasing the server density in their current facilities.

Enticed by these potential benefits, many data center managers have jumped to install new airflow management solutions. Unfortunately, they don't always achieve anticipated benefits. Strong says, "A lot of people are trying to hit home runs; they're trying to solve the whole problem with one solution," says Lars Strong, senior engineer for Upsite Technologies ([www.upsitetechnologies.com](http://www.upsitetechnologies.com)). "But they're not doing the fundamentals, the prerequisites. You know, the basics."

To make sure that your airflow management project achieves the results you want, experts recommend that you focus on five fundamentals.

## Start With A Plan

Before you go begin, those involved should sit down to talk about your goals and what techniques will be feasible at your site. Cary Frame, CEO of Polargy ([www.polargy.com](http://www.polargy.com)), says that it is especially important for IT and facilities to get some agreement about what temperature you want the cold aisle to be.

You should also talk to the local fire authorities at the beginning of your project. "We've heard lots of stories where people put containment up, the fire marshal comes in, and they have to take it all down," Frame says.

## Key Points

- Managing the airflow in your data center can save money on operations and capital expenditures.
- Sealing the small holes in the floor and the gaps in the racks can yield big efficiency improvements.
- The most effective airflow management projects start with a plan that includes a maintenance budget and end with a commissioning phase for fine-tuning the system.

You may also want to consult professional, third-party airflow management specialists who can help with the design and commissioning phases of the project.

Finally, "If you're going to go to a separation [or] containment strategy, you need to plan for the maintenance of it," Frame recommends. "So many times we see a project get done, and we go back a few months later and they've removed a couple of racks. Then there are big gaping holes they haven't filled." Start out right by budgeting for the additional materials you'll need when your server configuration changes.

## Seal The Floor

When it comes to airflow management, you'll get the biggest bang for your buck by sealing cable openings in the floor and making sure all perforated tiles are in appropriate locations. According to Bruce Jaggard, business development manager for Sealeze ([www.sealeze.com](http://www.sealeze.com)), "Leaving these holes uncovered is the same thing as leaving the doors open in your house." He says that sealing those holes usually pays for itself in six to eight months.

When sealing cable openings, it's important to use a solution that effectively seals the opening and will remain effectively sealed when cable activities occur, Strong adds. For example, although they're inexpensive and therefore easy on the budget, Styrofoam block-type seals become less effective when cables are moved around. By contrast,

slightly more expensive brush-style seals continue to work effectively when cable changes take place.

Another easy fix is making sure you don't have any perforated tiles in the wrong places, such as open areas or the hot aisle. "If the air comes out into a space that doesn't immediately have IT equipment adjacent to it, then it will just make its way back to the cooling units in the form of bypass airflow," Strong notes. "Every single tile location in a room needs to be determined whether it should be a solid tile or a perforated tile. And if it's a perforated or a grate, how open should the damper be—how big should the opening be?"

## Seal The Racks

It's also important to use blanking panels or other products to seal any open spaces in the rack itself. Strong cites a computational fluid dynamics study that found that servers installed in a cabinet without blanking panels installed drew 40% of their intake air from the rear of the cabinet. If the cabinets had blanking panels that left small gaps, the servers still drew 19% of their air from the hot aisle. However, panels with a tight seal were able to block off all air from the rear of the cabinet.

## Seal The Aisles


Data centers that have done a good job of sealing the floor and the server cabinets can then move on to larger containment solutions for the room. Frame explains that these solutions usually involve some sort of partitioning, such as aisle-end doors, and then something above or around the racks to keep the air from the hot aisles and cold aisles from intermixing.

Those partitions fall into two main categories: rigid systems or soft vinyl curtains. "A rigid system looks better, but it's more expensive, and it seals better," Frame says. "The soft-wall vinyl system or so-called 'meat locker curtain' is cheap, easier to install, doesn't seal as well, [and] doesn't look as good." He says that data centers with a lot of foot traffic, particularly from customers, tend to opt for the rigid systems, while labs or other dynamic environments tend to opt for the vinyl curtains.

## Tune The System

Finally, every airflow management project must go through a "commissioning" phase where managers make fine adjustments in order to maximize the cost savings or other benefits. "Just putting up the containment doesn't give energy savings," Frame says. "You have to make adjustments in order to get the savings."

One of those adjustments involves finding the right number and placement of perforated tiles in the cold aisles. Strong says that often data centers fill their entire cold aisles with perforated tiles, but that can lead to bypass airflow. Instead, he advises that managers invest in an infrared thermometer, which they can use to measure the air intake temperature for the IT equipment. They should then remove or add perforated tiles until the intake meets ASHRAE's maximum temperature recommendation of 80.6 degrees Fahrenheit.

Second, you need to look at the facility as a whole and determine which CRAC units you might be able to turn off and what your set points should be. "Not only do you have to make all of those decisions, you have to schedule those," Frame says. "You don't just make all of those changes at once." Although small data centers may be able to complete this commissioning process in a single day, larger facilities may require several weeks. Frame says that data centers often make a big change at first and then slowly adjust the temperature a degree a week, while monitoring for problems, until they find the right balance for optimum performance and cost savings. 

## Finish The Job

If you've begun an airflow management project but haven't seen the efficiency improvements you would like, the problem may be that you need to finish the job. "Sealing the last 20% of cable openings and bypass airflow gets you more return than getting started," says Lars Strong, senior engineer for Upsite Technologies ([www.upsitetechnologies.com](http://www.upsitetechnologies.com)). "So it's really important to finish the job really completely."

## Google Selected For DoE Cloud Solution

According to a recent press release, the U.S. Department of Energy, with the help of Unisys, is transferring up to 5,000 workers at its Idaho National Laboratory to Google Apps for Government. The move will provide Gmail, Google Calendar, Google Docs, and Google Sites services to the employees. The solution is said to lower costs and reduce data security issues by moving email and collaboration to the cloud. Unisys announced the contract could potentially be worth \$10



million, with a 37-month base period valued at \$5 million and seven one-year options included. Google and Microsoft are the top competitors offering cloud services to government agencies.

## Google Gains, Microsoft Loses In Browser Share

Data from Net Applications shows that Internet Explorer's share of the browser market dropped 1.8% to 52.6% in October. IE's market share has fallen 3.3 points in the past three months, the largest drop since 2009, Net Applications says. Apple's Safari and Google's

Chrome boosted their shares, however. Safari's market share increased by 0.4% in October and Chrome's increased by 1.4%. Chrome now has a 17.6% market share, with Safari accounting for 5.4%. Net Applications predicts that IE's losses will continue to mount and that its market share could fall below 50% by as early as January.

## In-Stat Expects Quick Adoption Of 802.11ac

A report from research company In-Stat found that the new 802.11ac Wi-Fi standard will be quickly adopted over the next few years, but it will still lag far

behind the current 802.11n standard. In-Stat predicts that almost 350 million routers, client devices, and modems with 802.11ac will be shipped every year by 2015, compared to the 1 million units expected to ship next year. In comparison, the company expects sales of 1.5 billion 802.11n devices in 2015 and about 700 million this year. The new 802.11ac standard is designed to deliver 1Gbps throughput; 802.11n is limited to 600Mbps.

## F5 Announces 2011 Revenue

F5 Networks surpassed the \$1 billion mark in yearly revenue for the first

time in company history. Year over year, the company's revenue rose 31% to \$1.15 billion. Revenue in the fourth quarter increased 24% to \$314.6 million compared to revenue in the fourth quarter in 2010 at \$254.3 million. F5 credits a few of its products for the higher-than-predicted growth, including the Viprion 2400 and Viprion 4400 chassis. F5's TMOS v11 software architecture also helped boost interest in the company, according to F5. Despite this year's surge in growth, analysts expect the company's growth rate to slow in the coming years as new competitive products enter the market.

SIX QUICK TIPS

# Unified Communications On A Budget

## How UC Components Provide Positive ROI For Businesses

**YOU CAN'T DEFINE** unified communications (also known as UC) without incorporating the technological benefits of connectivity. Although each vendor may take the liberty to tailor the term to their services provided, UC encompasses the following three components: real-time communications, non-real-time communications, and the strategies an enterprise uses to connect from B2C and B2B.

Because UC utilizes broadband and collaborative tools that are becoming increasingly more cost-effective, departments can organize a team project without consuming every resource within the enterprise. A UC platform can benefit big and small businesses alike by improving customer contact, enhancing VoIP mobility, and reducing the cost of communication management.

✓ *Measure The Multitasking Savings*

Some people claim that multitasking reduces productivity, but when you consider the advantages of teleconferencing vs. traveling and collaborating online instead of coordinating schedules to physically meet in a room, the time and cost savings offset any downtime that may occur.

For example, Sarah Carter, vice president of Actiance ([www.actiance.com](http://www.actiance.com)), explains a few of the ways her company's customers have successfully integrated UC technology in the workplace.

"One customer of Actiance's in the UK had their CEO estimate that he saves 20,000 miles a year through the use of his UC platform—because he's taking videoconferencing calls instead of driving to remote offices. He's also able to easily have 'Sunday evening' executive calls, where the engagement level is much higher," Carter says. "Videoconferencing drives much more engaged conference calls with a higher degree of successful outcomes, as it enables participants to increase the communications signs that we react to as human beings."

Carter adds that another client uses whiteboarding and videoconferencing to drive innovation across geographically dispersed teams which, in turn, minimizes in-office costs and enables teleworking capabilities without increasing the infrastructure budget.

✓ *Look For Wise Cost-Cutting Measures*

By addressing where your company stands within its general UC lifecycle, you can determine the best way to interconnect the new communication opportunities. You can do so without breaking the bank, when you start with step-up option.

"A cost-effective solution will concentrate on bringing basic call controls to the mobile devices (hold, conference, transfer, etc). As you move up the value curve, these solutions are enhanced with more mobility, customer service capabilities, and management functions, while still remaining cost-effective (if one does their homework)," says Richard J. DeFabritus, senior solutions marketing manager for SME communications at Avaya ([www.avaya.com](http://www.avaya.com)).

### Best Collaboration Tip

"Collaboration needs are growing daily, and in SMBs that have dispersed people across different locations, video could be a prime solution to ensure continuity, productivity, and effective collaboration on a daily basis," says Richard J. DeFabritus, senior solutions marketing manager for SME communications at Avaya ([www.avaya.com](http://www.avaya.com)). "Increasingly, we see the benefits of video being played out in many different types of companies that have branches, factories, retail stores, and other workers and customers facing collaboration needs."

Tom Toperczar, vice president of marketing at Nefsis ([www.nefsis.com](http://www.nefsis.com)), explains that unless you're a major studio executive or you work at CNN, it's likely that high-quality video won't meet all your needs. "For productive meetings and knowledge transfer, live sharing and collaboration tools are required. It's good to keep this in mind, as outside cloud-based alternatives [and] collaboration tools are often a separate, chargeable add-on," Toperczar says.

### Best Grassroots Growth Tip

A city isn't built in a day, and neither are unified communication systems. So, the start-small-and-expand concept is never advice to readily ignore. In other words, you don't have to connect your Web, voice, mobility, contacts, and voice service all in one day.

According to Tom Toperczar, vice president of marketing at Nefsis ([www.nefsis.com](http://www.nefsis.com)), it's easier and less risky to choose a specific application such as training, sales, or inter-office meetings before you overhaul an enterprise's communication management.

"[You can] 'pilot' a simple videoconferencing application [rather] than undertaking a company-wide deployment right from the start," Toperczar says. "In this regard, many cloud-based solutions offer a free trial, and easy expansion is available at the click of a mouse. The alternative, hardware-based installed-site systems require a large capital outlay and become very complex once the limited number of built-in ports are exhausted."

### BONUS TIPS:

✓ *Mobility Matters*

"Mobility truly represents the new wave of how employees are conducting business, and the SME arena now has lots of ways to benefit from communications applications that drive a productive mobility strategy," says Richard J. DeFabritus, senior solutions marketing manager for SME communications at Avaya ([www.avaya.com](http://www.avaya.com)). "Whether employees are on the road, at home, or in the office, having the right mobility tools is essential to help ensure employees have the ability to stay in touch with customers and colleagues from anywhere."

✓ *Face Your Challenges*

Although you can look at unified communications simply as another communication solution, if you haven't identified the obstacles to this type of project management, here are some issues you might have to address now or in the future:

- **Application performance pitfalls.**  
The end user should be taught that new UC applications may be buggy at first and require a learning curve. Make sure you budget for comprehensive support, so your employees feel comfortable learning new technologies.
- **Unpreparedness for interoperability and integration issues.**  
Different vendors offer different interworking options, so it's important to be aware of how certain solutions will fit into the larger communication infrastructure.
- **Bandwidth taxation.**  
Before you deploy applications, consult your IT department to find out what type of strain new UC tools will place on your existing network. For instance, rolling out a videoconferencing platform across the enterprise will require more network throughput.

✓ *Don't Forget Multilayer Security*


Threats and vulnerabilities to UC applications are not insurmountable, but that doesn't negate network security vigilance. The following are some of the essentials that should be in place in order to track and analyze your network's security posture in real time: end-to-end encryption, traffic recording, logging, UC policy enforcement, access control authentication, and the firewall.

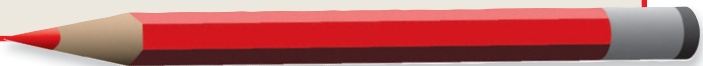
Carter recommends a UC platform that you can federate to external and third parties

because this "allows you to set the controls [and] the security and keeps your users on brand and on message," she says. "Federation with third parties, while blocking the native use of tools, gives you a much more robust security," Carter adds.

✓ *Assess Departmental Needs*

Every department settles into its own collaboration habits, which is why UC will be unique to each one, though it should remain internally unified. For instance, the sales team that communicates regularly with cli-

ents around the world needs to be able to give presentations and show products on mobile devices. The human resources department relies on VoIP solutions and email in order to conduct interviews and recruit new employees. Alternatively, the accounting department needs to have the capability to instant message internally and share storage externally so every employee can edit any number of financial documents. All of these corporate communities must thrive cooperatively using UC without funneling into their own technological silos. 



# Data Breach Response Tactics

What To Do When Something Goes Wrong

**REPORTS OF SECURITY BREACHES** are commonplace in today’s news, and as such, enterprises are putting more and more measures in place to protect their valuable data. But what happens when a sneaky hacker manages to circumvent those security measures?

“In this day and age, it is no longer a matter of if a security breach occurs, it is when,” says Andrew Retrum, director of technology risk consulting at Protiviti. Here is a look at the steps your SME should take in the event of a security breach.

Gauge The Breach

According to Russ Gould, director of product marketing at Guidance Software (www.guidancesoftware.com), the first thing a company of any size needs to do is get an understanding of the extent of the breach and what information has been compromised in order to mitigate risk as fast as possible.

“Acting a week later is too late,” Gould says. “Key nuggets of information will be gone if you wait. For instance, log files may already be gone.”

It’s also important not to panic, says Rich Kissel, senior information security analyst for the National Institute of Standards and Technology. “Think about what is happening and what has happened,” Kissel says. “Document what you know or think you know. As you learn more, update your ‘what we know’ document.”

According to Gartner analyst John Pescatore, the SME should ideally have an existing process defined for incident response that says to first notify internal parties, such as legal counsel, corporate management, or corporate communications; make the decision to connect/disconnect the network as quickly as possible; perform forensics investigation, which for most SMEs means bringing in an outside firm; make notification decisions (if customer accounts were involved); and identify the lessons learned from the breach and how they can be used to mitigate future problems.

**Have A Communications Plan**

A good incident response plan includes a tiered communication protocol with your

Key Points

- Breaches have become commonplace, proving that no company, large or small, is safe from security incidents.
- Have an incident response plan and practice it so staff will follow its procedures once an incident has been declared.
- It is critical that you have a communications plan to govern how you give information to staff and to regulatory agencies, business partners, and customers.

legal counsel, law enforcement, vendors and business associates, and customers, when required, Gould says. He explains that legal teams, HR, IT, and corporate communications teams all need to be aware of their roles in advance of a breach.

“If a plan is not in place prior to a breach, the first step in the event of a breach is to get an understanding of the extent of the damage and then immediately speak with legal and compliance experts to get an understanding of legal implications and options,” Gould says.

According to Pescatore, communication to internal parties has to have two parts: first, the immediate notification of event, and secondly, detailed information after forensics investigation as part of recommendation on impact and what customer or other sensitive information was breached.

Pescatore says that internal communication about the breach generally should be face-to-face or over the phone rather than using the compromised network.

**Test & Challenge The Incident Response Plan**

As with many other aspects of IT, testing is invaluable to incident response plans. “It is not enough to have established incident response plans,” Return says. “In order for them to be effective, they must be tested and challenged regularly. Tabletop exercises and what-if scenarios allow involved parties to get comfortable with the response process, increasing the chances that the process is followed when an event occurs.”

Gould adds that “with frequent breaches making headlines, there are a lot of case study examples that organizations can look at in terms of public response and readiness.”

“Beyond that, the best way to handle a breach is always to avoid it in the first place,” Return says. “In many cases, customer information is stored when and where it is unnecessary to do so. Companies can significantly reduce their risk by removing this information from their environment.”

Lessons Learned

According to Pescatore, previous breaches have shown that it’s better to err on the side of giving out too much information, too quickly.

“[You’re] much better off to later say ‘it wasn’t as bad as we thought’ than to be continually saying ‘oops, it is actually worse than

we thought,’” Pescatore says. “Actually learn some lessons. Make sure after an incident you are doing some things differently than you were before the event. Management is always receptive to change after bad news.”

Prepare For The Worst

Kissel recommends that SMEs seriously consider purchasing data compromise insurance coverage, which is available from a number of companies that specialize in helping companies protect themselves from financial liabilities that result from security breaches.

Kissel also advises downloading the NIST small business information security guide and following its advice.

“This document helps a business implement a baseline information security program to protect valuable business information,” Kissel says. ■

## Data Breach Notifications & Communication

Should a data breach occur, your legal counsel can quickly become your new best friends as they help guide you through the legal issues, says Richard Kissel, senior information security analyst for the National Institute of Standards and Technology. Here are his recommendations for dealing with the key players after the breach has occurred.

**Customers/individuals.** You will have gotten notification information from your legal counsel, Kissel says. This will tell you who you need to notify, what you need to tell them, and the timeline for you to provide the notification.

“It is critical that you be open and not evasive or deliberately deceptive with your communications,” Kissel says.

**Law enforcement.** Kissel says to file a report with your local law enforcement cybercrime unit if one exists. Otherwise, go to county or state police. Also, report to the FBI’s local cybercrime unit so they can remain informed about cybercrime trends and local attacks.

**Legal.** Kissel says you should have a business relationship with legal counsel, and now is the time to use it. Summarize what you know about the data that has been compromised and get advice about which, if any, notification laws apply and what their requirements are and will be for you.

Additionally, consult with counsel for general guidance about what you should be doing and not doing, saying and not saying, Kissel says.

**Vendors.** According to Kissel, depending on the nature of the information which has been compromised, you might need to contact your bank(s) and/or credit card companies. You might also want to contact the three credit reporting organizations (Trans Union, Equifax, and Experian) to alert them to the data compromise and inform them that your customers may well want fraud alerts put on their accounts.

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# Blade & Rackmount Servers

house hardware is going to create a conflict, not after you've already bought and paid for the thing that is taking it down," Hostetler says. Don't overlook scalability for future server optimization, especially if you intend to expand your network or extend the system anytime in the future. **P**

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PRODUCT SPOTLIGHT

# Blade & Rackmount Servers

Product

Aberdeen Stirling 163G



Description


The 1U Stirling 163G from Aberdeen uses a GPU in addition to a CPU to perform general-purpose scientific and engineering computing tasks. Stirling 163G servers are designed to boost performance at 1/10th the cost and 1/20th the power consumption of the latest quad-core CPUs.

- 1U form factor with support for two double-width GPU cards
- Configurable with Nvidia Tesla or Fermi GPUs
- Up to 12 CPU cores (dual six-core Intel Xeon 5600 processors)
- Up to 192GB DDR3 memory capacity
- Three 3.5-inch SATA drives with RAID 0, 1, 5, and 10 support
- Optimized for HPC and GPU supercomputing
- Five-year warranty

**Best For:** High-end, high-density GPU applications such as those found in the medical, energy, telecommunications, finance, and science industries.

Product

Aberdeen Stirling 266G



Description


The 2U dual-node Stirling 266G GPU server from Aberdeen provides endless computational scalability for high-bandwidth problems such as sequencing (virus scanning, genomics), visual computing problems such as graphics, and image processing. GPU computing uses a CPU and GPU together in a heterogeneous computing model, wherein the sequential part of the application runs on the CPU and the computationally intensive part runs on the GPU.

- 2U form factor with support for two double-width GPU cards
- Configurable with Nvidia Tesla or Fermi GPU cards
- Up to 12 CPU cores (dual six-core Intel Xeon 5600 processors)
- Up to 192GB DDR3 memory per node
- Six 3.5-inch SATA drives per node
- Optimized for HPC and GPU supercomputing
- Five-year warranty

**Best For:** A range of graphical and computationally intensive applications, such as medical, energy, telecommunications, finance, science, and engineering

Product

HP ProLiant BL685c G7



Description

The HP ProLiant BL685c G7 features the latest AMD Opteron 6100 series processors, multicore scalability, and integrated HP Virtual Connect FlexFabric architecture, which helps simplify network connections and lower infrastructure costs. The HP ProLiant BL685c G7 server delivers twice the performance at prices starting at 30% lower than the previous generation.


- Simplifies management and lowers infrastructure costs by converging LAN and SAN traffic over the same flexible connection
- iLO3 (Integrated Lights-Out 3) Advanced technology helps simplify remote management
- HP Insight Control software improves management productivity while reducing operational expenses

**Best For:** Virtualization and compute-intensive database applications.

**Price:** Starts at \$9,539

Product

Portwell CAR-1000



Description


Unlike commercial motherboard-based systems, the CAR-1000 1U rackmount communication appliance from Portwell features a reset button that will change the system back to the manufacturer's default setting, if required. CAR-1000 is also perfect for customers who need six Gigabit Ethernet ports and applications that require the high performance and low power consumption of Intel's dual-core Atom D510 processor. CAR-1000 is offered with a choice of three Intel Atom processors—single-core N450 or D410 and dual-core D510—for flexible customized configuration.

- Intel Atom D510, D410, or N450 processor and ICH8M I/O controller
- Supports fanless solutions when built with Intel Atom processor N450
- Up to 4GB DIMM with D510/D410; up to 2GB DIMM with N450
- Six Gigabit Ethernet ports with two bypass segments
- Mini PCI slot for Wi-Fi and Crypto card option

**Best For:** Network security solutions to SOHO and remote/satellite offices.

Product

Portwell CAR-4010



Description


Portwell's CAR-4010, a functional and modular 1U rackmount communication appliance, is based on the Intel C206 chipset, which offers a wide range of CPU support, including Intel Xeon E3-1200 processors and Intel Core i3-2120 processors. CAR-4010 is a modular platform designed to help customers maximize flexibility and cost savings. Customers have options to install two PCI-E add-on cards or additional Portwell Ethernet modules. CAR-4010 also supports IPMI 2.0 remote network monitoring and management.

- LGA1155 Intel Xeon E3-1200 Series processors and Intel C206 chipset
- Dual-channel DDR3 1333/1066 memory platform, up to 16GB
- Eight onboard RJ-45 Gigabit Ethernet ports with PCI-E Gen. 2.0 technology
- Two software-controlled Gen. 2 bypass segments

**Best For:** Server virtualization and network security solutions for midsized and large enterprises.

Product

Silicon Mechanics Rackform iServ R485



Description

The Silicon Mechanics Rackform iServ R485 is a powerful 5U rackmount server that will accommodate eight CPUs and four GPUs. This highly capable server features the new Intel Xeon E7-8800 Series processors with up to 10 cores, up to 20 threads, and up to 30MB of shared cache. The E7-8800 includes Intel Scalable Memory Interconnects and Scalable Memory Buffers for high-speed serial links that support cost-effective, commodity, RDDR3 memory with two integrated memory controllers per socket, up to eight DIMMs per memory controller, and four DDR channels. The addition of Recoverable Machine Check Architecture and Advanced Instruction Sets makes this server the perfect resource for those who need a computing powerhouse.

- 5U rackmount server
- Eight Intel Xeon E7-8800 Series processors
- 64 DDR3 DIMM sockets
- Integrated dual-port Gigabit Ethernet adapter
- Integrated IPMI with KVM over LAN
- Six PCI-E 2.0 expansion slots
- 16 hot-swap 2.5-inch SAS/SATA drive bays
- 80 PLUS Gold Certified redundant power supply

**Best For:** High-end scientific and engineering tasks that can benefit from the deployment of multiple GPUs for modeling and visualization, or a highly reliable, dense, and powerful base for virtualized environments.

**Contact:** (866) 352-1173 | sales@siliconmechanics.com | www.siliconmechanics.com

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

NEC Express5800/R120b-2



The Express5800/R120b-2 from NEC is a dual-socket 2U rack server that combines outstanding performance, reliability, energy-saving parts, and green technology. In addition, the platform features internal expandability and large memory capacity to allow for future growth. The R120b-2 comes standard with a practical remote management solution. Remote monitoring and management are possible through a Web browser regardless of the status of the operating system and even when the platform is turned off.

- Energy-efficient server for the most demanding applications
- Powered by Intel Xeon 5500 and 5600 series processors
- Up to 192GB of DDR3L memory with 2/3/4/6-way interleave
- Support for 80 PLUS Gold-certified energy-efficient power supply, low-voltage DDR3L DIMMs, and dynamic fan control increase power efficiency

**Best For:** Virtualization solutions, database servers, consolidation of business-critical applications, and Web servers.

NEC Express5800/R320 Series Server



NEC's Express5800/R320 Series of fault-tolerant servers provides an innovative solution to address planned and unplanned downtime for mission-critical IT infrastructures. Through full system redundancy, NEC's R320 servers leverage Intel Xeon processors to achieve continuous availability and deliver unprecedented system integrity, transparent failover, and a low total cost of ownership.

- Up to 99.999% uptime—less than five minutes of downtime per year
- Delivers continuous processing through any form of server failure
- Provides data integrity for most critical SQL Server workloads
- Delivers fault-tolerant Hyper-V availability

**Best For:** Mission-critical application deployments and virtualization environments.

Do you have a

**NEW PRODUCT**

that data center/IT managers would be interested in learning about?

Send your press release or related product information to [press@processor.com](mailto:press@processor.com).

Silicon Mechanics Rackform iServ R4820 MicroCloud Server

The Rackform iServ R4820 from Silicon Mechanics offers up a heady combination: extreme density and energy efficiency without the extreme price. This 3U server supports eight independently serviceable, cable-free nodes. Based on the Intel Xeon E3-1200 processor series with the latest microarchitecture, you have the upside of Intel Turbo Boost Technology 2.0 and Intel Hyper-Threading in eight separate 1P nodes, all in only 3U of space.



- 3U 8-node rackmount server
- Independently serviceable, cable-free nodes
- One Intel Xeon E3-1200 Series processor per node
- Four DDR3 DIMM sockets per node
- One integrated dual-port Gigabit Ethernet adapter per node
- One integrated IPMI with KVM over LAN per node
- One low-profile PCI-E expansion slot per node
- Two hot-swap SATA drive bays per node
- 80 PLUS Platinum Certified redundant power supply

**Best For:** The R4820 makes a highly compelling alternative to blade servers.

**Contact:** (866) 352-1173 | [sales@siliconmechanics.com](mailto:sales@siliconmechanics.com) | [www.siliconmechanics.com](http://www.siliconmechanics.com)

Supermicro SuperBlade TwinBlade

The innovative TwinBlade doubles the number of dual-processor compute nodes per 7U enclosure to 20, allowing for up to 120 DP servers per 42U rack for a dense, cost-effective solution. Based on the SBI-7226T-T2 blade supporting the latest Intel Xeon 5600 Series processors, this system delivers unprecedented performance per dollar and per square foot. Available with dual 40Gbps QDR InfiniBand switches, this blade solution features industry-leading 94% power supply efficiency.



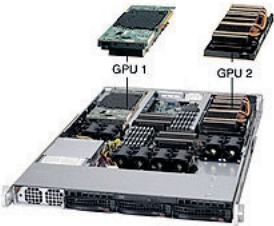
- 20 DP (Intel Westmere and AMD G34) nodes in a 7U enclosure
- 128GB ECC-registered DDR3 per DP node
- Dual 40Gb InfiniBand, 10GbE, and 8Gb FCoE switches
- Dual 1/10Gb Layer 2/3 Ethernet switches

**Best For:** High-performance computing in data center, enterprise, and cloud computing deployments.

**Contact:** (408) 503-8000 | [www.supermicro.com](http://www.supermicro.com)

Supermicro SuperServer 6016GT-TF-FM205

The 1U SuperServer 6016GT-TF-FM205 rackmount server from Supermicro features an Intel Xeon 5600/5500 processor and 192GB of DDR3 1333/1066/800MHz ECC registered DIMM. The SuperServer 6016GT-TF-FM205 also features the Super X8DTG-DF motherboard (with dual 1,366-pin LGA sockets).



- Supports RAID 0, 1, 5, and 10
- Comes integrated with two Nvidia Fermi M2050 GPU cards
- IPMI 2.0 with support for virtual media over LAN and KVM over LAN
- Intel 82576 dual-port Gigabit Ethernet controller with support for 10BASE-T, 100BASE-TX, 1000BASE-T, and RJ-45 output
- 80 PLUS Gold Certified power supply

**Best For:** Environments that would benefit from high compute density and uniform large-scale deployment-based rackmount solutions.

**Contact:** (408) 503-8000 | [www.supermicro.com](http://www.supermicro.com)

# Plan A Network Cabling Project

Space, Money & Other Considerations

WHETHER DEALING WITH new or pre-existing space, network cabling projects can be daunting due to all the factors that must be taken into consideration. Further, as with most major projects, a successful network cabling venture doesn't just account for current requirements, parameters, obstacles, and resources; it accounts for the future, as well. Failing to do so can result in delays, unforeseen costs, migration obstacles, and other problems. Keeping the following tips in mind when planning a network cabling project can prevent headaches later.

✔ *Plan Well*

Although seemingly obvious, having a clearly defined scope for your project is a must in order to properly allocate resources. According to Ken Koty, sales engineer at PDU Cables ([www.pducables.com](http://www.pducables.com)), changes made later on cause delays. Laura Viars, senior account manager at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)), agrees. "Poorly thought-out cable installations aren't difficult to spot; you might see overly lengthy patch cords, improperly sized cable management, and discarded cable ties littering the surrounding areas," she says. "Maintaining a setup with ineffective cabling is beyond inconvenient and can cause unnecessary delay in the event that you ever need to update or troubleshoot the network." By planning for current requirements and potential expansion, she says, "you can ensure that you'll have sufficient room for growth and the means to quickly identify and remedy any issues."

Conversely, Jason Hill, Midwest regional sales manager for network cabling solutions at Hellermann Tyton ([www.hellermann-tyton.us](http://www.hellermann-tyton.us)), says taking the data center's lifespan into consideration when designing cable infrastructure is crucial. "Designing a data center that has the ability to migrate up to the 100GbE mark is exciting, but could be excessive," he says. "Many dollars are spent with good intentions but without knowing how long the space will be in production."

Overall, Andrew Schmeltzer, global cabling product manager for Black Box ([www.blackbox.com](http://www.blackbox.com)), says you should support cabling end-to-end, from the data center to the desktop. "This includes trays in the data center and the appropriate cable support apparatus in the ceiling," he says. "That can include cable hangers or other cable support systems." Also important is having proper horizontal and vertical cable management in cabinets and racks, he says. A design aspect that gets neglected in most deployments, Hill says, is how cabling on the back of patch panels will be handled. "A good rule of thumb is to always put a rear manager to keep the cabling in place," Hill says. "This also is a good place to put any extra slack. Placing 2 to 3 feet of extra cabling provides the flexibility to move the cabling in the future."

✔ *Look Ahead*

Where future needs are concerned, keeping migration paths in the forefront of design plans is important, but so is

choosing a cable manufacturer/provider that can adapt to changes. "The path from 10GbE to 40GbE to 100GbE is straightforward and should be considered," Hill says. "Many aspects of the 100GbE system are adaptable, so one should engage a manufacturer that can bring the expertise of the changes." Gina Dickson, Black Box global infrastructure product manager, advises to have rack space set aside for future projects. "Choose wider cabinets to easily accommodate cable management and more cables in the future," she advises.

Schmeltzer advises to "plan for the most robust cabling system you can that's within your budget" and factor in enough bandwidth for current and future applications. "I can almost guarantee that whatever bandwidth you think you need, you'll need far more," he says. Ultimately, the cabling infrastructure you're installing will need to support company operations for 10 to 15 years minimum, he says. "Think back: CAT 5e was only ratified in 2001. Gigabit Ethernet was an emerging technology. Now, we're talking 40 to 100 Gigabit Ethernet," Schmeltzer says. "So, give yourself plenty of room to grow. At the very minimum, CAT 6 should be installed for horizontal copper cabling and OM3 fiber for backbones."

✔ *Consider Hiring Outside Help To Save Time & Money*

It might seem counterintuitive, but contracting for various jobs can save resources long-term. For example, Hill says, hiring a cable supplier with infrastructure design experience can alleviate the learning curve for IT and enable deployments to meet or exceed a time table. Along those lines, Koty advises to "contract out much of your structured cabling to prevent having in-house skilled workers performing this task. You can schedule several jobs at the same time and save overhead in the long run," he says.

For new construction and installation projects, Schmeltzer advises to thoroughly coordinate the timing of those who will install cable and those handling other construction tasks. If possible, schedule cable technicians to be onsite prior to those installing ceiling tiles, drywall, office cubes, and other equipment. "It takes a lot more time to remove tiles and install cable after the ceiling is up," he says.

✔ *Don't Overlook The Obvious*

One cabling detail that often gets overlooked, Hill says, is the functionality of the cabling system. When designing a build out of the cabling infrastructure, "address issues with active equipment," he says. "For example, a SAN director has a vital role within the data center. When designing the cabling infrastructure, one can do port emulation for the blades. Obviously, one can install the fiber cords very easily in a patch panel environment vs. the GBics on the blade. Another good example would be handling the cabling requirements for the storage arrays."

## Most Common-Sense Tip:

✔ *Factor In Existing Equipment*

Make certain existing equipment is compatible with the new cabling you're installing, says Andrew Schmeltzer, global cabling product manager at Black Box ([www.blackbox.com](http://www.blackbox.com)). "You can't mix CAT 5e and CAT 6 cable, and any existing cable infrastructure should be thoroughly tested and recertified," he says. Relatedly, Ken Koty, sales engineer at PDU Cables ([www.pducables.com](http://www.pducables.com)), says that whenever equipment is down for maintenance, "seize the opportunity to redress cabling."

## The Easiest Tip To Overlook:

✔ *Know Your Specs*

Beyond staying abreast of changing specifications and new regulations, Schmeltzer says, designers should definitely adhere to termination testing specs. "And as-built documentation, including floor plans, cable routing, test results, etc., should be requested," he says. "Keeping up-to-date documentation may seem to be a time-consuming task, but it can save a lot of time in the long run when you have to make changes and updates."


## BONUS TIPS:

✔ *Emphasize organization.*

Where maintenance of network cables are concerned, don't overlook cable management, says Laura Viars, senior account manager at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)). "Try to avoid permanent solutions, as networks are always expanding," she says. "For example, using hook-and-loop wraps rather than cable ties provides cost-effective, accessible, and reusable cable management. Properly sizing your patch cords can also help manage cable messes; avoid excessive lengths but make sure not to go too short, either. You don't want your cables to be taut. If extra-long patch cords are unavoidable, invest in some horizontal managers to keep cables tidy, and remember, always label when applicable."

✔ *Address heating and cooling.*

Where heating and cooling efficiency are concerned, Ken Koty, sales engineer at PDU Cables ([www.pducables.com](http://www.pducables.com)), says that using overhead racking for network and storage cables will prevent air dams forming under the floor. Also, keep cabling out of the way of exhaust fans in cabinets, he says.

Data center real estate and equipment rooms are areas often overlooked when planning network infrastructure, Schmeltzer says. "I've seen new installations and network expansions where space and distances were completely underestimated," he says. "Remote closets with backbone connections weren't laid out, and suddenly, closets need to be built to accommodate network distance limitations." 

# Network With Your Peers At These IT Training & Association Meetings Across The United States

**NOVEMBER**

**ISACA Kentuckiana Chapter**

Nov. 18  
Louisville, Ky.  
[www.isacaky.org](http://www.isacaky.org)

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**ISSA Middle Tennessee**

Nov. 18, 11:30 a.m. to 1 p.m.  
HCA  
Nashville, Tenn.  
[www.issa-midtn.org](http://www.issa-midtn.org)

.....

**VMware User Group**

Nov. 20, 8 a.m. to noon  
Platform Labs  
1275 Kinnear Road  
Columbus, Ohio  
[www.platformlab.org](http://www.platformlab.org)

.....

**Sharepoint 2010: A Collaborative  
Platform for Developers**

Nov. 21, 9 to 11:30 a.m.  
New Horizons  
1890 Commerce Center  
Fairborn, Ohio  
[tinyurl.com/NHD1121](http://tinyurl.com/NHD1121)

.....

**Sharepoint 2010: A Collaborative  
Platform for Developers**

Nov. 21, 2 to 4:30 p.m.  
New Horizons  
10653 Techwoods Circle  
Cincinnati, Ohio  
[tinyurl.com/NHD1121](http://tinyurl.com/NHD1121)

**AITP California Southland**

Nov. 23  
Coco's Bakery  
12032 Harbor Blvd.  
Garden Grove, Calif.  
[www.aitpcalsouthland.org](http://www.aitpcalsouthland.org)

.....

**AITP Akron**

Nov. 29  
356 Fighter Group Restaurant  
4919 Mt. Pleasant Road  
North Canton, Ohio  
[www.akron-aitp.org/index.htm](http://www.akron-aitp.org/index.htm)

**DECEMBER**

**Data Connectors Albuquerque  
Tech-Security Conference**

Dec. 1  
Albuquerque, N.M.  
[www.dataconnectors.com/events/2011/12Albuquerque/agenda.asp](http://www.dataconnectors.com/events/2011/12Albuquerque/agenda.asp)

.....

**Central Plains ISSA**

Dec. 2, 1 p.m.  
Wichita Marriott Restaurant  
9100 E. Corporate Hills Drive  
Wichita, Kan.  
[issa-cp.org](http://issa-cp.org)

.....

**TakeDownCon 2**

Dec. 2-7  
The M Resort Las Vegas  
Henderson, Nev.  
[www.takedowncon.com](http://www.takedowncon.com)

**AITP Research Triangle Park**

Dec. 8  
University Club  
4200 Hillsboro St.  
Raleigh, N.C.  
[www.rtp-aitp.org](http://www.rtp-aitp.org)  
.....  
**Data Connectors  
Phoenix Tech-Security  
Conference**  
Dec. 8  
The Buttes  
2000 Westcourt Way  
Tempe, Ariz.  
[www.dataconnectors.com/events/2011/12Phoenix/inv\\_ex.asp](http://www.dataconnectors.com/events/2011/12Phoenix/inv_ex.asp)

.....

**SQL Server Society of Las Vegas**

Dec. 8  
[sssolv.com](http://sssolv.com)

.....

**AITP Greater Wheeling**

Dec. 13, 5:30 p.m.  
The White Palace at Wheeling Park  
1801 National Road  
Wheeling, W.Va.  
[www.aitp-wheeling.org](http://www.aitp-wheeling.org)

.....

**AFCOM Central Texas**

Dec. 15, 11:30 a.m. to 1:30 p.m.  
Marie Callender's Restaurant  
9503 Research Blvd.  
Austin, Texas  
[www.afcom.com/afcomnew/CentralTexas.HTML](http://www.afcom.com/afcomnew/CentralTexas.HTML)

**Data Connectors  
Ft. Lauderdale Tech-Security  
Conference**

Dec. 15  
Ft. Lauderdale, Fla.  
[www.dataconnectors.com/events/2011/12FtLauderdale/agenda.asp](http://www.dataconnectors.com/events/2011/12FtLauderdale/agenda.asp)

.....

**ISSA Northern Virginia**

Dec. 15, 5:30 p.m.  
[issa-nova.org](http://issa-nova.org)

.....

**ISSA South Florida**

Dec. 15  
Miami, Fla.  
[www.sfissa.org](http://www.sfissa.org)

.....

**AITP Oklahoma City**

Dec. 20  
[aitpokc.org](http://aitpokc.org)

.....

**AITP  
Southwest Missouri**

Dec. 20  
[aitpspringfield.org](http://aitpspringfield.org)

**2012  
FEBRUARY**

**SPTechCon**

Feb. 26-29  
Hilton San Francisco Union Square  
333 O'Farrell St.  
San Francisco, Calif.  
[www.sptechcon.com](http://www.sptechcon.com)

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USED & REFURBISHED EQUIPMENT

# Understanding The Gray Market

## Smart Buyers Can Find Quality Equipment At Low Prices

**ASK A GROUP OF IT PROFESSIONALS** what the gray market is, and you're likely to get a variety of answers. Is it knock-off equipment from overseas? It is equipment with dubious origins? The answer to both is a vehement "no." The common definition of the gray market is "the sale of equipment through channels that aren't licensed or authorized by the original manufacturer," and it's both legal and legitimate.

The stigma—and confusion—associated with the gray market has prompted many resellers to undertake an ad-hoc rebranding campaign. "Used market" suffices for many, while others prefer "green market," pointing to the environmental advantages of keeping equipment in the marketplace and reducing landfill materials. Whatever you call it, the gray market offers smart buyers quality equipment at attractive prices.

**Reputation is king.** Finding a reputable reseller is critical to making the gray market work for you. "I would definitely stress that buyers get references," says Richard Greene, vice president of operations at Liquid Technology (www

.liquidtechnology.net). "Watch who you're dealing with, and try to go with someone who's been around awhile." Tap your network to see which vendors offer quality equipment and reliable guarantees, and seek out resellers with a track record of satisfied customers.

Before buying, consider each seller's history, including transaction volumes and customer ratings. "Have they sold a lot of product? It should be at least in the hundreds of items," Greene says. "And what's their feedback like? I think [checking] those two things should protect you fairly well."

**What to buy.** For organizations ready to get their feet wet in the gray market, Tim Farrow, senior vice president of operations at Apto Solutions (www.aptosolutions.com), recommends data communications equipment, PCs, and servers as good choices that usually avoid the licensing issues encumbering other items. "With servers, if companies are replacing or adding on to their existing infrastructure and can use enterprise-wide licensing, it's very cost-effective," Farrow says.

**What to avoid.** Gray market channels aren't good for everything. "If you need license upgrades or anything to operate the piece, you're not going to be able to do it," Greene says. "Storage would be one of the best examples because there's often some kind of complex software running for integration." Claims that a reseller will transfer software registration for you, or that no license is needed, should be verified with the manufacturer before completing the purchase. It's also recommended that buyers check with the manufacturer before assuming any new purchase can be added to an existing service contract.

**Still on the fence?** If you're unsure about taking the gray market plunge, consider the benefits: Good-quality equipment is regularly available on the gray market, and some components have never seen the light of day. Companies that have downsized or gone out of business often leave pristine equipment available for resale. "There's a lot of new, perfectly good product to be bought up and resold when those deals come up," Farrow says.

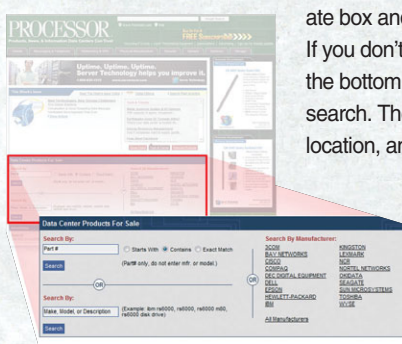
Even when items are used, Greene says that shouldn't dissuade buyers. "It's not a lesser good; it's just a used good." **P**

### Find Used & Refurbished Equipment For Sale

Once you've made the decision to purchase used or refurbished equipment, finding the equipment you need is easy with *Processor's* online Data Center Products For Sale Database.

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Don't know the specific part number or model? Use the drill-down search on the *Processor* home page to view results from specific manufacturers. Simply click the manufacturer name, and you'll see a list of all equipment listings from that manufacturer.




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GREEN TECH & TIPS

Reduce Printing Burdens:  
Canon's Generation Green Initiative Aims To Make Printing More Eco-Friendly

CANON BEGAN ITS Generation Green initiative in 2008 with the objective of improving eco-friendly design and reducing paper usage throughout its printer, scanner, and copier lines. Most recently, Canon announced that you can return any empty Canon inkjet cartridge to one of the 1,600 FedEx Office locations to ensure environmentally safe recycling of the ink, cartridge, and other materials.

“Generation Green is Canon’s environmental initiative that aims to reduce the environmental burdens in all stages of a product’s lifecycle,” says Nicole Lancellotti, marketing specialist at Canon. “This program was designed to provide business partners, customers, and consumers a way to identify and learn about the various green products and solutions Canon offers.” Currently, the program covers a good number of Canon’s printing and digital imaging products, including PIXMA inkjet printers, imageCLASS laser printers, and its imageRUNNER line of copiers.

Many Colors Of Green

Canon earth-friendly approach can be found throughout a number of aspects of product design. On a material level, Canon has begun using bio-based plastic, which is a hardened material that’s created with both plant and organic components, in its imageRUNNER Advance series of digital imaging products. Recycled plastic can also be found in many

of the exterior housings and other product parts in Canon’s imageRUNNER line. In the design and development stages, Canon also makes it a goal that 65% of a product is recyclable and 75% is recoverable, which meets with the standards set out by the EU Waste Electrical and Electronic Equipment Directive.

Being eco-friendly isn’t just about recyclable material, though—especially when you’re dealing with products that use paper. “At this point, almost all of our printers include automatic two-sided printing to help you reduce your paper usage by up to 50%,” Lancellotti says. “Additionally all of our products are Energy Star-compliant as well as RoHS-compliant.” Another example is the Easy-WebPrint EX software that’s included with Canon Inkjet printers. “This software allows you to clip only the portions of a Web page that interest you,” Lancellotti says. “It also allows you to merge multiple Web pages into one to help reduce your paper usage.”


The same type of smart design can also be found in Canon’s scanners. “Many

Canon scanners have a low energy consumption that can be powered solely through a USB connection, so there’s no need for an external power source,” Lancellotti says. “Some of higher-end scanners use white LEDs to help reduce their energy consumption and decrease the time the scanner takes to warm up.”

Green Ink

Canon’s new ink cartridge recycling initiative collaborates with a few key partners, including FedEx Office; Sims Recycling, a processing organization; and Close the Loop, a company that recovers the plastic from inkjet cartridges for felt-tip pens and markers. Once you return a Canon PIXMA inkjet cartridge to one of the 1,600 FedEx Office locations, it will be sent to Sims Recycling for processing, after which Close the Loop will handle the cartridge to recycle the plastic and ink. Data centers can also recycle their Canon hardware. “If you have any PIXMA or CanoScan Products, they can be recycled through our mail-back program,” Lancellotti says.

Many of Canon’s imageRUNNER products allow for IT staff and administrators to track and control access to printers, as well as usage by department. For example, you can implement page limits, mandate dual-side printing, and eliminate banner

pages to force users to conserve the amount of energy, paper, and ink/toner being utilized in the enterprise. 





# Short On Time?

Why navigate through countless Web sites when you can get all the information you need in just a few minutes by reading *Processor*! *Processor*’s content is comprehensive, but it’s presented in a quick, easy-to-read format, so you can keep up with the constant flood of new data center products and technologies.



## PROCESSOR

For more information call 800.819.9014 or go to [www.processor.com](http://www.processor.com)




# Processor Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry. Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

To list your company and products,  
call (800) 247-4880.

PHYSICAL INFRASTRUCTURE



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**Products Sold:**

A complete line of cabinet PDUs, including Per Outlet Power Sensing (POPS), Rack Mount Fail-Safe Transfer Switch, Console Port access with remote power management, Switched, Smart, Metered, Basic, and -48 VDC

(800) 835-1515 | www.servertech.com

PHYSICAL INFRASTRUCTURE



AVTECH Software, founded in 1988, is focused on making the monitoring and management of systems, servers, networks, and data center environments easier. AVTECH provides powerful, easy-to-use software and hardware that saves organizations time and money while improving operational efficiency and preparedness. AVTECH products use advanced alerting technologies to communicate critical status information and can perform automatic corrective actions.

**Products Sold:**

A full range of products that monitor the IT and facilities environment, including temperature, humidity, power, flood, room entry, and UPS

(888) 220-6700 | www.AVTECH.com

PHYSICAL INFRASTRUCTURE




Staco Energy was founded in 1937 and is one of the longest-lasting innovators of power products and services in the world. Our recent innovations have created the foundation for entry into the SMB data center marketplace through pioneered design and expertise. We are committed to providing you with the best tailored power solutions for your needs.

**Products Sold:**

A full line of UPS products, including our new FirstLine P 80 – 125kVA UPS, FirstLine PL 10 – 100kVA UPS, FirstLine BMS, and related accessories and services.

(866) 261-1191 | www.stacoenergy.com

PHYSICAL INFRASTRUCTURE




Temperature@lert is a leading provider of low-cost, high-performance temperature monitoring products designed to provide early warning of temperature changes before it's too late. The company's goal is to deliver products that can eliminate your worries about system malfunctions or product damage due to temperatures. The Boston, Mass.,-based company has sold more than 10,000 products to customers in 40 countries.

**Products Sold:**

A full line of temperature monitoring products, including the Temperature@lert USB Edition, WiFi Edition, and Cellular Edition

(866) 524-3540 | www.temperaturealert.com

PHYSICAL INFRASTRUCTURE




BayTech was founded in 1976 and, since the 1990s, has developed unique products for remote power management. The company uses printed circuit board instead of wires for a better, more resilient connection between the data center equipment and the receptacle. BayTech provides an extensive Web site with brochure downloads, warranty information, and reseller support and also offers evaluation units for data centers.

**Products Sold:**

- Power control, distribution, management, and metering
- Power transfer switches
- Console management and remote site management

(800) 523-2702 | www.baytech.net

PHYSICAL INFRASTRUCTURE




Sensaphone has been designing and manufacturing remote monitoring systems for more than 25 years and has more than 300,000 of its products in use. Sensaphone's product lineup offers a full range of devices with a broad number of features and applications designed to monitor your entire infrastructure and alert you to changes. All product engineering functions, including hardware and software design and circuit board layout and assembly, are performed at the Sensaphone facility in Aston, Penn.

**Products Sold:**

Remote monitoring solutions that provide email and voice alarm notification for problems related to temperature, humidity, water detection, power failure, and more.

(877) 373-2700 | www.sensaphone.com

PHYSICAL INFRASTRUCTURE



Rackmount Solutions' mission is to listen to the IT engineer's specific needs and deliver superb-quality, high-performance products through continuous product innovation and operational excellence. We pride ourselves in providing quality customer service, products that fit your IT requirements, and solid value for your money.

**Products Sold:**

- Wallmount and server racks and cabinets, including sound proof, air conditioned, and large cable bundle
- Desktop/tabletop portable racks
- Shockmount shipping cases
- Bulk cable

(866) 207-6631 | www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE



Based in New York City, Hergo Ergonomic Support Systems is an independent designer and manufacturer of enclosure cabinet solutions, technical computer furniture, and modular racking systems. The company's products are designed to promote organization in the workspace and to increase the productivity of computers, peripherals, and communications equipment. Hergo is known for its high-quality products and superior customer service.

**Products Sold:**

- Racks
- Enclosures/cabinets
- Motorized workstations
- Flat-panel arms
- Computer desks
- Cable management
- Power management

(888) 222-7270 | www.hergo.com

PHYSICAL INFRASTRUCTURE



PDUsDirect.com is a Master Distributor of select Server Technology PDUs for server and networked environments. PDUs Direct's basic, metered, and switched Rack PDUs provide local and remote power management, power monitoring, and environmental monitoring. We pride ourselves in offering industrial-grade quality products at the lowest prices, with the fastest shipping (most orders shipped within 24 hours) and simplest purchase process. We are the Power Behind the Business.

**Products Sold:**

A complete line of metered and basic PDUs, and 20A switched PDUs.

(888) 751-7387 | pdustdirect.com

DESIGN | PHYSICAL INFRASTRUCTURE



MDI Access is a Telecommunications Infrastructure / Data Center / Collocation Design Build Contractor. MDI Access has completed in excess of 500,000 sq. ft. of data center and collocation space across 25 states in the past 5 years.

**Services Offered:**

- Data Center/Collocation Design Build
- Multi-site collocation roll outs
- Retroactive standardization of existing facilities
- Consolidation of facilities
- Virtual modeling to improve OP EX efficiency

(855) MDI-DATA | www.mdiaccess.com

STORAGE



Boasting more than 20 years of experience in the industrial computing market, iStarUSA Group has made its mark in the design and manufacture of rackmount chassis, industrial power supplies, data storage, enclosed cabinets and racks, and custom power solutions. The group reaches a number of vertical markets via its five divisions: Claypower, Claytek, iStarUSA, RaidAge, and Xeal.

**Products Sold:**

- Claypower: Custom power
- Claytek: Racks and enclosures
- iStarUSA: Industrial chassis
- RaidAge: Data storage
- Xeal: Industrial power

(888) 989-1189 | www.istarusa.com

STORAGE



The OCZ Technology Group has been offering enterprise class solutions for many years and OCZe (OCZ enterprise) represents the company's offerings that cater specifically to the unique needs of both Enterprise and OEM clients. These innovative products are designed and manufactured to solve problems and deliver improved total cost of ownership (TCO) to clients requiring enterprise class solutions.

**Products Sold:**

- Solid State Drives
- Power Management

(408) 733-8400 | oemsales@occenterprise.com

STORAGE



WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. Our regulation-approved, secure data eradication processes and environmentally friendly disposal programs give organizations a safe and economic incentive for recycling used media. Customer service is one of our top priorities, backed by helpful, knowledgeable, and efficient team members. Obtain a no-obligation, confidential quote on your tape media today.

**Services Offered:**

Tape media buyback, secure data eradication, media disposal, and recycling

(800) 821-1782 | www.WeBuyUsedTape.net

EQUIPMENT DEALER



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**Products Sold:**

We buy used cell phones & PDAs, including Apple, LG, Blackberry, HTC, Motorola, Nextel, Nokia, PalmOne & Samsung.

(800) 248-5360 | www.pacebutler.com

SECURITY



Milton Security Group LLC is at the forefront of new developments in network security technology that provide the framework in the most demanding security environments worldwide. We guide our customers to success in an information-driven world by supplying exceptional customer service, delivering top-notch products and engaging partner programs. Milton Security Group is a Veteran-Owned Small Business security company with a consulting practice.

**Products Sold:**

- Access control and security scanning
- Network management

(888) 674-9001 | www.miltonsecurity.com

SERVERS



Supermicro® (NASDAQ: SMCI), the leading innovator in high-performance, high-efficiency server technology, is a premier provider of advanced server Building Block Solutions® for enterprise IT, data center, cloud computing, HPC, and embedded systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green®" initiative by providing customers with the most energy-efficient, environmentally-friendly solutions available on the market.

**Products Sold:**

- Servers
- Network switches
- GPU servers
- Motherboards
- Storage solutions
- Embedded
- Chassis
- Blade servers

(408) 503-8000 | www.supermicro.com

SERVERS



Chenbro is a leader in enclosure solutions, selling its products primarily to system integrators and OEM and channel partners. The company's extensive research and development efforts help it to keep its competitive edge and maintain market leadership, with special focus on thermal, EMI, and acoustic solutions. Taiwan-based Chenbro has offices in the United States, UK, The Netherlands, and China.

**Products Sold:**

- A comprehensive line of PC chassis, server/workstation chassis, rackmount chassis, and HDD enclosures.

(909) 947-3200 | www.chenbro.com

CLIENTS



Maryland-based dtSearch started research and development in text retrieval in 1988. The company is known for speedy adoption of new programming standards, OSes, and file types. Plus, it has a flexible licensing model. Typical corporate use of dtSearch includes general information retrieval, Internet and intranet site searching, and email archiving and email filtering.

**Products Sold:**

Text retrieval products, including:

- Desktop With Spider
- Network With Spider
- Publish For CD/DVDs
- Web With Spider
- Engine For Win & .NET
- Engine For Linux

(800) 483-4637 | www.dtsearch.com

EQUIPMENT DEALER



At Information Technology Trading, our goal is to help you acquire the right hardware or software solution. We specialize in purchasing and reselling data-processing equipment and have more than 21 years combined experience. We provide services and system upgrades, DASD, communication, and memory. We're also an outlet for off-lease portfolios.

**Products Sold:**

- AS400, Advanced System/36, R/S6000, ES/9000, and PC systems (including lease and rental)
- CPUs, memory, disks, tapes, displays, and controllers
- Services, including system design and installation, maintenance, and buyback of existing hardware

(877) 715-3686 | www.itechtrading.com

SERVICES



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STORAGE



RecycleYourMedia.com is concerned about the destruction of our environment caused by e-waste. We realize there needs to be a solution that is ecologically sensible, technologically reliable, and economically viable. The answer is to sell us your new, used, or even obsolete media. Your sensitive data is secure and destroyed with manufacturer-approved processes and equipment, and you will also be supplied a Confidentiality Agreement on request. It's easy to recycle your data cartridges with RecycleYourMedia.com.

**Products Purchased:**

Super DLTII / LTO2, 3, 4 / AIT1, 2, 3, 4 / AME2 / 9940 / 3590 / MLR, SLR / TR5, 7 / VXA / V23

(877) 798-2737 | www.recycleyourmedia.com

SK storage kit

CHENBRO



**SK41203**  
Convert 1x 3.5" internal bay to 2x 2.5" HDD bays



**SK41202**  
Convert 1x 5.25" bay to slim ODD and 3.5" bays



**SK41101**  
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**SK51101**  
Convert slim FDD bay to 1x 2.5" Hot-swap SATA HDD bay



**SK51102**  
Convert slim ODD bay to 1x 2.5" Hot-swap SATA HDD bay



**SK51201**  
Convert 3.5" bay to 2 x 2.5" Hot-swap HDD bays



**SK31101**  
Convert 5.25" bay to 3.5" Hot-swap bay



**SK33502**  
Convert 3 x 5.25" bays to 5 x 3.5" Hot-swap HDD bays



**SK32303**  
Convert 2 x 5.25" bays to 3 x 3.5" Hot-swap HDD bays

Hot-Swap Feature Int.

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Rackmount Chassis



PC Chassis

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